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ANTHROPOLOGICAL PAPERS No. 6

The First Outlines of a Systematic Anthropology of Asia

With Tables of Stature, Cephalic Index and Nasal Index of Living Subjects

BY

V. GIUFFRIDA-RUGGERI

PROFESSOR OF ANTHROPOLOGY IN THE ROYAL UNIVERSITY OF NAPLES,
MEMBER OF THE ANTHROPOLOGICAL SOCIETIES OF ROME,
FLORENCE, LONDON, PARIS, VIENNA, MOSCOW,
BRUSSELS, LYONS, PORTO, LIEGE, ETC.

TRANSLATED FROM ITALIAN

BY

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REVISED BY THE AUTHOR WITH ADDITIONS

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The First Outlines of a Systematic Anthropology of Asia

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INTRODUCTION

A fact which is of great importance for the future of anthropology and which has escaped the notice of superficial observers of the anthropological movement—of those who seek for some anatomical novelty, losing sight of the true scope and object of our studies—is the new compilation made in late years of anthropological tables much more extensive and ample than the old and antiquated ones of Topinard (and this has naturally followed from the accumulation of the huge mass of materials that have been recently studied). It may well be conceived that if these old tables, although incomplete, have in the past been of so much service whenever one undertook the somatic study of any population of the earth, so much more will the new tables, which represent an incomparably

superior and better instrument of work and which greatly reduce the labour of supplementary research, prove—and they have already proved—to be useful to students of anthropology. The tables which have been drawn up in the early years of the present century, are due to three eminent anthropologists, universally known, not for their personal opinions—which some people go prying about for the proper estimation of unknown celebrities—but for the immense service that they have rendered to the progress of our studies, and they are, mentioned in the order of publication of their works : Deniker,[1] Ivanovski,[2] and Martin.[3] Whosoever has undertaken a study of anthropology—not purely morphological, or anatomical, since in such a case it is necessary to have recourse to other branches of science—whoever has had to lecture on anthropology, knows how much trouble has been spared in research and with what rapidity things can be acquired and mastered by making use of Deniker or Martin in place of Topinard and Ranke. In this way is being achieved a continuous progress *in toto*, which attests to the maturity and autonomy now attained by our science.

Of course it is not to be thought that there is no defect anywhere and that the work already done is above all criticism. On the contrary, it is certainly our duty—however disagreeable—to be very much on our guard with regard to the data, supplied by Martin's tables owing, it may be, either to the confirmed ill-health of the author—for which reason he left the public chair which he had rendered illustrious at Zurich—or to the excessive confidence placed by him in some of his collaborators, as is quite probable. I give a few examples, with

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[1] Deniker (J.), *Les Races et les Peuples de la Terre.* Paris, 1900, Appendices.

[2] Ivanovski (A.A.), *Naselenie Zemnogo sciara.* Moscow, 1911.

[3] Martin (R.), *Lehrbuch der Anthropologie in systematischer Darstellung.* Jena, 1914.

the hope that in a second edition of the valuable Lehrbuch the errors of the tables will be corrected.

In the table of stature there appears on page 213, an author "Gischiga" who had measured the Jukagiri and the Tungusi: everything instead shows that here we have to do with Mrs. Jochelson-Brodsky, and that Gischiga is not an anthropologist, but is only a district of the extreme N. E. of Siberia called by that name or rather Ghiscighinsk. Checking individual figures, we may correct several: for example, the average stature of the Igorot ♂ given by Bean is 1540 mm. and not 1549, that of the Semangs ♂ measured by Annandale is 1528 and not 1520 which represents the span between the arms. An error has crept in with reference to the Kayans indicated by the statures ♂ 1572 and ♀ 1440, which are erroneously attributed to Haddon, while instead we have here those measured by Nieuwenhuis and published by Kohlbrügge: the 21 Kayans ♂ of Haddon have the average of 1550 and do not appear in Martin's table.

The same inaccuracies can be pointed out in the table of the cephalic index on page 674 for the Kayans ♂ and ♀ who are attributed to Haddon but belong instead to Kohlbrügge. On page 672 the cephalic index 79·9 of the Lepchas is attributed erroneously to Legendre while it appears in the "Census of India" for 57 Lepchas of Sikkim.

In the table of nasal index there are given some data that cannot be compared with one another on account of the technically different methods adopted for the measurement of the nasal length or, as it is sometimes improperly called, the nasal height. It can be measured by the method of taking a shorter length, *viz.*, the distance from the point of the lowest depression of the nasal dorsum (instead of the nasion) to the sub-nasal point and

since, for getting the nasal index one has to take this length as equal to 100, therefore, if this is smaller, the nose appears larger, *viz.*, we get a higher figure as the nasal index. Thus the figures obtained from the natives of the Philippines by Bean who adopted the lowest point of the depression " between the eyes "[1] have to be omitted in the table on page 448 of Martin : and moreover, Bean himself says that his indices are not to be compared with those of other authors. I think also that the nasal index of 70·2 for the Soiots measured by Gorotscenko (referred to by Mrs. Jochelson-Brodsky, but perhaps by a misprint) is to be changed into 76·2, as we find it in the tables of Ivanovsky. Finally, we fail to understand why Martin gives 66·7 as the nasal index for the Ainus measured by Koganei: for the Ainus of Jeso I have obtained from the figures of Koganei 68·0 as the index and for the Ainus of Sakhalin (who are only 8 in number) 71·7.

Moreover, everything relating to the geographical distribution of the people in the tables of Martin leaves much to be desired : it would suffice to say that Martin places in Asia many peoples who are inside the geographical boundaries of Europe : the Syrians (" Zirianen," who are not to be confounded with the Syriacs), the Permiaks, the Baskiri, the Osseti, the Tatars of Cazan measured by Sucharew, the Calmuks that were measured by Vorobieff and by Koroleff and belong both to Astrakan.

The three tables in the " appendix " of Deniker do not show the names of the particular authors with regard to stature and cephalic index : only in the case of the small table of nasal index are the names of the authors given. As regards Asia, I found the data given by Deniker, in general, accurate, although a few trans-caucasian peoples

[1] Bean (R. Bennet), *Filipino Tipes : Racial Anatomy in Taytay. The Men.* The Philippine Journ. of Science, IV, 1909, n. 5, p. 378.

are found assigned to Europe, to facilitate the common treatment of the whole Caucasus which is adopted in the text. These data I have transcribed in my tables, and I have indicated them by the letter *D*, omitting the names of the individual authors anterior to Deniker and utilised by him. It is only necessary to call attention to the fact that the 332 Curds whose cephalic index Deniker gives on p. 669 as 78·5, and who certainly are the same as those of Chantre, are not all ♂ but 62 ♀.[1]

I have found Ivanovsky's tables extremely accurate and I have transcribed by far the larger number of the data from them, indicating them by Iv.,[2] thus omitting the authors utilised by him whose names can be verified from his tables: from these also I have drawn almost all the percentages which are seen in my tables, according to the subdivisions of Ivanovsky. I have omitted nearly all the series containing less than 10 individuals which are very numerous, although not entirely useless.

A fact to be taken into consideration is the arrangement of the material. This has been done by Deniker and by Martin in the simplest way, distributing, that is to say, the material into just as many sections as there are parts of the globe; to this Ivanovsky had added Russia, taking out the Russian territory from Asia and from Europe. This innovation, if it shows up the enormous anthropometric work accomplished by Russian anthropologists which can be cited to the honour of a generation now gone out, is not, however, an innovation

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[1] Chantre (E.), *Recherches anthropologiques dans l'Asie occidentale.* Arch. du Museum d'Hist. Nat. de Lyon, T. IV, Lyon, 1895, p. 102. Besides, this ind. is to be taken with great caution, in as much as Chantre asserts (*Ibid.* p. 113) that almost all the Curds have deformed cranium, the ♀ a little less.

[2] Indirectly I have also made use of the older work of Ivanovsky (A.A.), *Ob antropologhicesckim sostavje naselenija Rossij.* Moscow, 1904 (unfortunately—under the present conditions—I have not been able to procure a copy).

destined to be perpetuated, it not being rational, and, moreover, being surpassed by historical events.

Of the other authors, I shall mention that Mrs. Jochelson-Brodsky, on her return from the "Jesup Expedition," published in 1906, two tables, one of the stature, and the other of the ceph. index " of the ural-altaic peoples and of the other peoples of north-eastern Asia,"[1] making known to the west the great progress that the anthropological study of these peoples had made in the Russian empire, and adding a few new facts from that useful " Expedition," which, however, notwithstanding the high patronage of the " American Museum of Natural History," has not yet published all the anthropometric results. The comprehensive designation of these peoples is however so confusedly arranged as to place the Lapps alongside the Torguts, the Chukchi beside the Tatars of Cazan, the Chinese next to the Baskiri and so on.

I believe that we should consider this first period of preparation of the materials of study as at an end and that we may pass on to the second period, when we should try to find some logical orientation among such data as have gone on accumulating; this orientation can perhaps be realised by distributing the peoples as if they could be classified in varieties and sub-varieties, allocating them in a provisional scheme and overlooking all that,—unfortunately a great deal—which we ignore about them. The objection is obvious: the peoples represent ordinarily mixtures of many varieties. Nevertheless we do not consider it convenient to adopt the system of having pure series (Sergi): it would be very easy to set aside all that which does not fit in well enough, but naturally would thus be so much the less convincing for others. It is necessary instead to take the ethnic groups just as

[1] Jochelson-Brodsky (D.), *Zur Topographie des weiblichen Körpers nordostsibirischer Völker*. Arch. f. Anthrop. N. F., V., 1906, pp. 7, 12.

they are, that is to say, more or less mixed up, and to bear in mind that the *taxonomic classification satisfies the majority in each series examined.* When one deals with some ethnic groups that are little known, or for whom the taxonomic classification of the majority appears to be very little clear or impossible owing to pronounced admixture, one has to desist from such classification : thus, for such groups we have the designation of "unclassified groups." Of course, it is not to be supposed that all the individuals of such groups are unclassifiable; on the contrary every individual could very well be classified by physical anthropologists. It is, instead, the ethnologist who cannot pronounce with regard to the classification of the ethnic group, since it is one thing to take into consideration, for example, every Japanese, and another thing to consider the "Japanese" people as we necessarily have to do in our tables. An arbitrary procedure does not advance science, while in many cases we have to leave to the future the task of drawing these people out from the limbo of the unclassified. They meanwhile represent problems for students to work at. As Pittard has rightly observed : "There will certainly come a day when anthropology will disentangle the skein of the Asiatic people. That will be when we have entirely got rid of all the linguistic and political etiquettes which encumber the road without any profit to science."[1]

[1] Pittard (E.), *Anthropologie de la Roumanie. Les peuples sporadiques de la Dobrudja : III Contribution à l'etude anthropologique des Kurdes.* "Bull. Soc. Roum des sciences" xx, n. 1, p. 65. Bucharest, 1911.

I

To proceed to a *naturalistic classification* we wish to examine Matthew's hypothesis that the primitive centre of dispersion of the *Hominidæ* was situated in central Asia, and that the first waves of distribution proceeded to the south of the great range of mountains, whose E. W. direction represented a protective defence for those early Hominidæ.[1] Besides the tropical forests on the continent, the insular habitat in the islands in the Indian Ocean and the Western Pacific, must have served as so many areas of preservation for particular sections of these first human groups. According to Matthew the same distribution must have taken place on general lines for all the Primates[2]: the South-American centre of dispersion is relegated to the domain of fable.

We do not think that the hypothesis of Matthew is absolutely opposed to ours, which was given by us at the same time as his,[3] namely, that there have been three genetic centres of the races in Asia—one for the Eurasiatic North (formation of the Leucoderms), another for eastern Asia,[4] whence the formation of the yellow stock and its derivatives in America and in Oceania, and a third for the southern regions of the ancient world. In fact, the two first centres may be contiguous if we place them, for instance, towards Zungaria. If we place

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[1] MATTHEW (W. D.), *Climate and Evolution.* Annals of the New York Academy of Sciences.

[2] MATTHEW (W. D.), loc. cit. Figures 6 and 7 show exactly the same geonemic behaviour for man and the other Primates : in fig. 6 the Negritos are erroneously assigned to Africa.

[3] GIUFFRIDA-RUGGERI (V.), *La cosi detta culla dell' umanità.* "Riv. Ital. di Sociol." xix, fasc. V-VI, 1915, p. 533.

[4] In my article refd. to, p. 538, "Western Asia" was a misprint for eastern. I think that Prof. Boule has rightly adjudged my hypothesis as "a sort of conciliation between the monogenists and polygenists" ("L'Anthropologie," xxviii, 1917, p. 598).

a single filum of ancestral representatives in central Asia, and admit that the passage of the southern barrier was effected in successive waves, then it follows that, even with such a hypothesis, the third genetic centre placed by us in the southern regions, can be connected originally with central Asia. In other words, the unity of the filum is anterior to the differentiation, contemplated in our hypothesis.

The hypothesis of Matthew is in favour of heterochronism, so that we can complete it in the form of a scheme for Asia, distributing as follows all the Asiatics of the present day:

(*a*) Groups of the 1st cycle of migrations: Protomorphs and (secondly) metamorphs of India and the Philippines, the Ainus, Negritoes, Australoids (Veddah, Toala, etc.), Dravidians.

(*b*) Groups of the 2nd cycle of migrations: Leucoderms, Mongolians, Indonesians.

That Asia was inhabited in Palæolithic times, when the fauna was different from that at the present day is a fact that has been already demonstrated: Deniker[1] notes the association of instruments of quartzite with the bones of extinct animals in the ancient alluvium of the rivers Nerbudda, Krishna and Godavari[2] and records other instruments in Siberia beside the skeleton of a mammoth broken to pieces. What some of the ancient inhabitants may have been we may surmise from the excavations of Turkestan, which have yielded elongated crania with

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[1] DENIKER (J.), op. cit., p. 423.

[2] Of this and other discoveries which have taken place in India a very valuable sketch has been lately published by PANCHANAN MITRA, *Prehistoric Cultures and Races of India. A Preliminary Review.* "The Calcutta University Journal of Arts," Vol. I, Calcutta, 1919, pp. 137 ff and also *Prehistoric Arts and Crafts of India.* University of Calcutta, Anthrop. Pap., No. 1, Calcutta 1920. For other parts of Asia consult BOULE (M.), *Les hommes fossiles*, Paris, 1921, pp. 354 ff.

non-mongoloid features,[1] but this does not enlighten us about the origin of the most important stock for the Asiatic continent, which is precisely *Homo Asiaticus* (L.), or *Homo orientalis*.

To go further back as Klaatsch did with that futile hypothesis which Keith has called pan-anthropoid,[2] somewhat in derision, is not our task.

Let us content ourselves therefore, necessarily, with the present data and appreciate them as already done by De Quatrefages from a purely systematic point of view. Moreover, we believe that the human fossils of Europe appertain to another cycle of migrations, anterior to those here considered.

The characters of *H. Asiaticus* have been given by a large number of authors. Biasutti, last and most complete of all, mentions:[3] leiotrichy, brachyskelic (thick and short) somatic proportions, Mongolian eye, and characteristic flatness of face, which together with the projection of the zigomatic bones constitute the Mongolian face. One may say that *H. Asiaticus* is recognised by the face: "it represents a low relief in all its parts: the slightly retreating forehead passes without the relief of superciliary arches on to the medium facial plain where the long nasal bones, narrow and flat, are inserted without depressions at the roots, while the large zigomatic bones protrude forward and beyond; so that the nasal dorsum emerges little from the cheeks which are large and full; the eyes with their Mongolian fold are at the surface of the head; alveolar prognathism is wanting (at least in the

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[1] Sergi (G.), *Dalle esplorazioni del Turkestan*—"Atti Soc. Rom. Antrop." xiii, 1907, fasc. III, fig. 2, etc.; also of the same author, *Europa*, Turin, 1908, pp. 431 ff.

[2] Keith (A.), *Klaatsch's Theory of the Descent of Man*, Nature, lxxv, Febr. 16, 1911, pp. 508-510.

[3] Biasutti (R.), *Studi sulla distribuzione dei caratteri e dei tipi antropologici*. "Memorie Geografiche." (Suppl. "Riv. Geogr. Ital"), 1912, N. 18, Florence, pp. 121 et seq.

pure forms) and instead there is a certain projection forward of the whole of the upper face in continuation of the plain given by the forehead. The mandible is high, wide transversally and with the chin sometimes a little prominent. The face, high and broad as it is, appears of large dimensions."

From the systematic point of view these are all characteristics not deeply marked: they are very little more than the characteristics of a sub-species, even adding the two integumentary characteristics of the cutaneous coloration, more or less yellow in tone, and of the scant hairiness of the body. Although the habitat of this little species is very vast and situated at various terrestrial heights, the internal homogeneity of the characteristics is such as to present only slight regional modifications of the type.

If the morphological facts described above do not permit any subdivisions into varieties—and that is natural, since they appertain to all the component parts of the species, *H. Asiaticus*,—there are yet other characteristics to be taken into consideration, which might not be the same for all; these are the shape, short or long, high or low, of the cranium, as appears from diverse indices (ind. of width-length and of height), the stature and the nasal index. Really these characters are the best for the subdivision of *H. Asiaticus*, as for the subdivision of other human species, and practically they have been already utilised in the descriptions that have been given (for example, by Deniker) about this or that 'population.' Those summary notices which we read at the end of every description (average stature, ceph. or nas. index, generally of the living) should be completed and collected together in a systematic table. But a systematic exposition of these three characteristics, or better, of their averages—eventually also of other characteristics, *e.g.*, the facial

index—can only be obtained by adopting a systematic classification of the populations : a simple succession of figures in ascending or descending order, or of the peoples in an alphabetical order, resembling the lists published by Deniker, by Ivanovsky or by Martin, is without importance for the purpose of subdividing the species *H. Asiaticus*.

A glance at any one of these three lists shows at once, that the *cephalic index* of the so-called Mongolians and their kindred does not present such a uniformity of brachycephalism, as to render this character useless for the subdivision of *H. Asiaticus* : on the contrary, this species includes as many dolico-mesaticephals as brachycephals, and the first, in my opinion, are the morphological predecessors of the second. If we add the criterion of the relative height of the cranium, as has been done by Biasutti with the help of the index of width-height in his Map VII, the uniformity disappears entirely, giving place to a distinction of areas and zones more or less circumscribed, which is of the greatest interest for the purpose of the subdivision of *H. Asiaticus*, sought by us. In Map VII of Biasutti we find the extreme N. E. Asia forming a quite distinct zone : it is an area in which the average cephalic index varies from 81 to 82·9 in the living subjects and in which plati-cephalism is not very prominent. This area is inhabited by the Chukchi and the Asiatic Eskimo : both of them appear in our classification as *H. Asiaticus neoarcticus*, in consideration of their kinship with the American Eskimo who really appertain to the same variety.

Proceeding towards the west we find other distinct zones for the ceph. index: all the remaining portion of Siberia, with the exclusion of the Samoyeds, the Soyots and the Yenisseian Ostyaks, show a ceph. index varying on an average from 78 to 82·9 in living subjects, while

platicephalism attains its maximum of frequency, that is to say is more than $\frac{3}{4}$. To this zone we assign *H. Asiaticus palæoarcticus*[1] which is comparatively dolichomesaticephalic, and *H. Asiaticus altaicus* which tends more towards brachycephalism. The distinction however depends upon other differences and is based specially upon a study of the now almost extinct Yenisseian tribes, whom we conventionally call "Altaic." We put together the Samoyeds, Soyots and the Yenisseian Ostyaks in a brachycephalic sub-variety: *Palæoarcticus brachymorphus.*

Proceeding towards the south we find two zones of clear and distinct brachycephalism: one represented by Manchuria and by the contiguous maritime zone, the other represented by central Asia. The whole of the latter area however does not appertain to *H. Asiaticus*, as we must separate from it the area inhabited by the Galchas, the Tajiks and other kindred Pamirians, who we maintain, differing from Sergi, have nothing of the Mongolian in them.[2] These being left aside there remains a nucleus of true Asiatics with ceph. ind. above 83 and with more than $\frac{3}{4}$ of platicephals whom we put collectively with the Manchus: both (that is to say, the Manchus and the other Mongolians of Central Asia) appear in our classification, conventionally, as *H. Asiaticus centralis.*

Still further to the south there are prominent two areas, Tibet and China (with Corea), both with a

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[1] Really the Palæoarctic zone is much more extensive and includes almost the whole habitat of *H. Asiaticus*: it is useless to say that we have to do with denominations which have only a geographical approximation, for a mnemonic purpose.

[2] Giuffrida-Ruggeri (V.), *A proposito di alcuni risultati antropologici della spedizione De Filippi al Caracoram.* Rend. R. Acc. Sc. Fis. and Mat. di Napoli. Ser. 3a, Vol. XXIV, 1918. It is therefore not possible for me to follow the system of Sergi, which has been newly taken up by Frassetto and which I consider to be rather misleading.

slight tendency towards brachycephalism, having average ceph. indices from 79 to 82·9 in living subjects. The Chinese and the Coreans show also a great tendency towards hypsicephalism having from $\frac{1}{2}$ to $\frac{3}{4}$ of hypsicephals, who are not found among the Tibetans. The first are considered by us as typical *H. Asiaticus* while the second appear as *H. Asiaticus tibetanus.*

Last of all there remains Indo-China which in Map VII of Biasutti present the whole variation of the ceph. ind., while the somewhat high percentage of hypsicephalism characterises them. Of the various areas which may be distinguished in Indo-China, the most extensive one appears to be that which goes towards the Gulf of Siam, in which there is confirmed brachycephalism with indices of 83 and more on an average in living subjects. The natives, who show this strong brachycephalism have been denominated by us *H. Asiaticus meridionalis*; while the others who show Dolicho-mesaticephalism have been called *H. Asiaticus protomorphus.*

Let us now examine Biasutti's other maps and draw conclusions from them. Map IV, which relates to stature, also shows that there are distinct zones and areas. One of them appears clearly to be confined to the extreme N. E.; the area of the Neo-arctics above mentioned, whose stature is rather low. Lower still is that of all the Palæoarctic peoples. A perceptible rise is seen in the Altaics according to the tables transcribed by me (*cf.* tab. 1), although they always remain below the average. Nor are the great majority of ethnical groups in Central Asia tall, not even the Chinese and the Coreans. Of low stature are the people of Indo-China and the Tibetans, leaving aside a few groups. One may conclude that *H. Asiaticus* is essentially of low stature, having only some local groups of high stature; but, even in the very slight oscillations of this characteristic, certain lines

coincide with those that I have shown for the ceph. ind., confirming the existence of some distinct human varieties.

Also in Map VI of Biasutti which is devoted to the variations of the nasal index, the extreme N. E. is seen isolated by a high grade of leptorrhiny which is characteristic of the Eskimos and of the Chukchi, while the extreme S. E., that is to say, Indo-China, is distinguished by the opposite feature. In analogy with the nasal index are distributed the variations of the fac. ind., which are seen in Map V of Biasutti. While among all the great mass of the Palæoarctics, the Altaics and the central Asiatics, the face is predominantly mesoprosopic (fac. ind. 83-85·9), the extreme N. E. is distinguished by a certain frequency of leptoprosopy, which agrees with the low nasal index, and this also is seen in the Chinese of the north and in some groups of Central Asia. The opposite fact is observed in Indo-China, and this is in accord with the high nasal index (platyrrhiny).

I pass over the Ainus and the Japanese : the first, because they have been considered by Biasutti as one of the most ancient branches of *H. Oceanicus*. Certainly here we have a local form whose relationship to *H. Asiaticus* has very little support and that only in the colour of the skin. We, instead, allocate them among the protomorphic relics,[1] who have been placed in the last three tables.

The Japanese, about whom there can be no doubt that they are Xanthoderms, have been allocated to the unclassified groups of these, it not being possible to use the average of their anthropological characteristics for the reason that the averages are obtained from values differing much from each other : many varieties, some of which

[1] We shall return to them at the end of this essay.

do not at all belong to *H. Asiaticus*, have entered into the composition of the Japanese people, and in very remarkable proportions. The same may be said of many peoples of Indo-China. Undoubtedly the Chinese also are not homogeneous; but their impurity and mixture, which are manifest in the north and in the south, are not, considering the large ethnic mass, so serious as among the Japanese. Therefore, we consider *H. Sinicus* as quite the same with *H. Asiaticus*, giving to the latter a concrete and adequate connotation.

The variety *protomorphus* is based principally on the results of the "Census of India"[1] which shows that Assam is peopled by mesaticephalic, meso-platyrrhines of low stature, who are also found here and there in Southern China, *viz.*, in the Lissu, Lolo and Miao-tse tribes. Whatever may be said about the Lolos, it is certain that the figures published by Delisle[2] are purely Mongolian. On the other hand the 29 Lolos, about whom Legendre gave information in 1910[3]—that is to say, 19 in a first communication and 10 in a second communication which could not be utilised by Ivanovski (who added only the first 19 to the 6 of Delisle)—show characters so different, as regards stature and the nasal index that for the time it is necessary to put them aside (although they are transcribed in our Tables I, II and III), in order not to prejudice the diagnosis of this variety. It is not impossible that we are dealing with allogenic residues who in their turn are found amongst other primitive residues of *H. Asiaticus*, whom I have placed in the variety *protomorphus*. Both of them must have been pushed forward by

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[1] *Cf.* Risley (H. H.), *The People of India*, London, 1915, App. iv, p. 402.

[2] Delisle (E.), *Sur les caractères physiques des populations du Tibet Sud Oriental.* "Bull. et Mem. Soc. Anthrop.," Paris 1918, p. 473.

[3] Legender (A.), *Les Lolos*, "Bull. et. Mem. Soc. Anthrop," Paris, 1910, p. 77, and of the same author, *Far West Chinois, Aborigines*; *Lolos Ibid.*, p. 520.

the later formations and must have travelled very far from their original northern fatherland.

The variety *meridionalis*—which appears indeed in S. E. Bengal, on the boundary-line with Burmah, in the Chakmas of Rangamati (to the east of Chittagong), and extends into the Indo-Chinese Peninsula—is also of low stature and has a nasal index just between the last limit of mesorrhiny and the beginning of platirrhiny, and is decidedly brachycephalic: it is principally on account of this last character that they differ from the former.

In order that I may not be lightly blamed for reasoning on averages, let me say that, as in S. E. Asia we find together representatives of both these varieties, I therefore assign to the variety *protomorphus* the individuals with more elongated cranium (the forms which it assumes belong to the sphere of skeletal craniology), and to the variety *meridionalis*, those with a short cranium. If in the other characters, the two varieties are very similar, that indicates precisely that here we have simple varieties, which obviously are by no means pure. The platyrrhiny, which is more pronounced in Assam, shows that some races with equatorial physical characters (which coincide with some residue of the Mon-khmer language) has entered into the mixture. But—leaving aside the peninsula of Malacca, in which we have various protomorphic relics that do not form a part of *H. Asiaticus*—the strongest metamorphism (that is to say, change of form) has come into existence in southern Indo-China, which presents other little known races akin to the Indonesians.

I conclude by bringing together the anthropological characters of diverse varieties in the following summary, which is obtained from the data that are furnished *in extenso* in Tables I, II and III, with the exception of the Lolos of Legendre who could not be taken into account

for the reasons stated above, and also of some with doubtful nasal index (the Soiots, Manchus and Torguts).

Summary I.

Anthropometric Characters of the Asiatic Xanthoderms.

	Stature.	Ceph. Ind. (living subjects.)	Nasal index (Living subjects.)
H. Asiaticus (H. Sinicus)	1612-1676	79·3-80·2	72·9-79·0
„ Neo-arcticus	1623-1625	80·8-82·0	78·7
„ Palæo-arcticus ...	1545-1601	78·3-80·8	76·5-79·1
„ „ brachimorphus ...	1540-1587	83·0-85·6	76·3-78·1
„ Altaicus	1597-1626	79·5-82·7	71·2-78·9
„ Centralis	1614-1684	84·3-87·0	71·7-80·5
„ Tibetanus	1570-1669	76·8-81·6	67·2-78·5
„ „ brachimorphus ...	1603-1622	83·3-84·3	71·7-74·1
„ Protomorphus ...	1550-1635	75·9-80·8	84·0-95·0
„ Meridionalis	1559-1649	82·7-85·5	·863

Deniker did not proceed otherwise when fixing the stature and cephalic index (with the nasal index he did not trouble himself) of the Nordic, Alpine, Dinaric, Ibero-insular and the other races of Europe, nor has a better method been yet found for the identification of such races; be that said to the honour of our lamented colleague.

Among the Xanthoderms, the lowest stature is found among the Palæo-arctic people in a wide sense, who make up the largest part of the Siberians; specially the *brachymorphus* sub-variety presents the minimum stature, but it is characterised besides by brachycephaly and some other characters that are not found in the Summary, that is to say, by platycephalism. In fact, Rudenko writes with regard to the Ostyaks of the Yenissei: "Like the Samoyeds and the Soiots they have very low crania (84·0% of the individuals are chamae-cephalic)"[1] He

[1] Rudenko (S.), *Resultats de mensurations anthropologiques sur les peuplades du nord-ouest de la Sibérie.* "Bull. et Mém. Soc. Anthrop.," Paris, 1914, p. 139.

deduces from all the characters taken together that these three peoples are closely related, and thus he feels justified in propounding the following hypothesis, which has the merit of being in accord with the views previously propounded by Castren, by Charusin and by Goroschtschenko: "A fairly numerous people, the Soyots (or another people of the same race) quitted, in former times, the Altai Mountains, proceeded towards the north and fixed their habitation in the basin of the river Yenissei where we find the remains of this people under the name of the Ostyaks of Yenissei. Passing farther towards the north, a party of this same people occupied the polar Tundra up to the Gulf of Khatan in the east; another party moved towards the west, crossed the Ural Mountains and settled in the northern confines of Europe up to Scandinavia inclusive. In this region it is known under the name of the Samoyed, and on the peninsula of Kolsky and in Scandinavia it is known by the name of Laps."[1]

Besides making this hypothesis Rudenko maintains that on the other hand the Ostyaks of the Ob and the Vogul belong both to another race. Deniker also believes them to be another race naming them "Ugri," short and dolichocephalic, or to be more exact mesaticephalic. These two characteristics, in our opinion, connect them with other Palæoarctics, as may be seen from our Tables I, II and III; while we, agreeing with the hypothesis referred to above, separate the Samoyeds, the Ostyaks of the Yenissei and the Soyots in a brachymorphous subvariety.

The populations which are now to be found in the high valleys of the Altai belong partly to the variety *altaicus* and partly to the variety *centralis*, as can be seen

[1] *Ibid.*, p. 139. This hypothesis does not differ from that suegested by us in *L'uomo attuale*, Roma, Albrighi e Segati, 1913, p. 76.

in a work recently published by Hildén.[1] This Finnish anthropologist was able, in the summer of 1914, to make a voyage to study the eastern regions of the Russian Altai and to measure 162 Lebedins, 88 Tubalars and 49 Telengets of both sexes. He believes, from his somatological examination, that the Lebedins, who are farthest north, are to be considered as Ugres from the Ob in an impure state, whilst the Tubalars are more strongly mixed with the Turco-Tatar peoples, and the Telengets, who are the most southern of all, must be included amongst the Mongolic peoples, although they also present an Ob-Ugrian element.

In my opinion all these denominations only bring confusion and seem to me exactly those linguistical and political labels which are better left aside. For this purpose we wish to show how the three ethnical groups above mentioned can be simply classified according to the preceding Summary I of the "Anthropometric characteristics of the Asiatic Xanthoderms," and we therefore give the averages of the male sex after Hildén :

	Stature	Ceph. Ind.	Nasal Ind.
61 Lebedins ♂	1626	80·1	78·9
37 Tubalars ♂	1634	82·7	80·7
29 Telengets ♂	1631	86·2	75·6

The averages of this last group are in admirable concord with the averages which I have assigned to *H. asiaticus centralis* in Summary I. For the first group there is instead a choice between the two varieties *altaicus* and *tibetanus*, in whose averages we find those of the Lebedins, but considering the geographical criterion—*i.e.*, from the fact that we know the habitat of the Lebedins—the precise indication must be to assign

[1] Hilde'n (K.), *Anthropologische Untersuchungen über die eingeborenen des Russischen Altai.* "Fennia" 42, N. 2, Helsingsfors, 1920.

them to the variety *altaicus*. Lastly, the Tubalars give averages which show a mixture between *altaicus* and *centralis*, as the stature and the nasal index are somewhat higher than those general to the first and the ceph. index is somewhat lower than that we give for the second, in agreement with the geographical position of the Tubalars, which is intermediate between the Lebedins and the Telengets. We have thus given an example of our method of using these three physical characteristics in the systematic scheme.

II

The Asiatic Leucoderms, according to our scheme of classification already published,[1] belong either to *Homo indoeuropæus dolichomorphus* or to *Homo indoeuropæus brachymorphus*, two varieties of *H. indoeuropæus*, or *H. occidentalis*, that are met with also in Europe.

The *Dolichomorphus Whites*, one may follow up more or less clearly from the Mediterranean up to Cashghar and to India, but with great variations in stature and appreciable variations also in the ceph. ind. according to Biasutti's map V. It is doubtful whether they are all related to the Mediterraneans, or whether there are representatives of the Nordics with fair hair and light blue eyes. Both the branches having proceeded from the anthropogenic centre of N. W. Asia, the initial difference between them must have been very slight or none at all, and it is reasonable to think that those who came last have better conserved the leucodermic characters. The last comers are the Iranians, whose arrival in their present habitat may be referred to about the middle of the 9th century B.C. : to them von Luschan assigns the Curds, seen by him, who have elongated crania, fine hair and light blue eyes.[2] On the other hand, these last two peculiarities were not observed in the Curds by Chantre.[3]

The *Brachymorphus Whites* are found in various areas of anterior Asia intermixed with the Dolichomorphus,

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[1] GIUFFRIDA-RUGGERI (V.), *Schema di classificazione degli* Hominidae *attuali* "Arch. per l'Antrop. e l'Etnol.," XLII, 1912, fasc. 1, p. 141, and also *L'Uomo attuale*, op. cit., p. 156.

[2] VON LUSCHAN (F.), *The Early Inhabitants of Western Asia.* " Journ. R. Anthrop. Inst.," XLI, 1911, p. 299. He adds that they speak an Aryan Language allied to Modern Persian.

[3] CHANTRE (E.). op. cit., pp. 104-105, 242.—See also by the same author : *Recherches anthropologiques sur le Caucase*, T. IV, *Populations actuelles*. Paris—Lyon, 1887, p. 263.

producing numerous peoples who are unclassified, not for ignorance of their anthropological constitution, but because of the impossibility of assigning to them any single collocation. Thus there are certain Kurdish tribes who do not show the dolichomorphic type, but the brachymorphic : such are specially the Curds of Transcaucasia in Russian Armenia.[1] The contrast repeats itself also among the Yesidi of Mesopotamia, who according to Goroschtschewski[2] are mesaticephalous, while von Luschan has seen other settlements of those resembling the Kyzilbash of the northern Mesopotamia, who are hyper-brachycephalous. The fact stands that the Curds measured by Pittard are quite different from those of von Luschan, being strongly brachycephalic and never having fine hair and light blue eyes ; Pittard also writes about them : " For us the true Kurds and the true Armenians appear to be of the same ethnic group,"[3] that is to say, the group of the brachycephals of high stature. Evidently these are not the true Curds for von Luschan, and it is difficult to say why they must be " the true " ones : we are rather inclined to hold that the true ones, that is, the original people who came down from the north are the dolichocephals, who are also less pigmented.

To the Armenians and brachycephalic Curds Pittard adds the Lasi, of the South-eastern littoral of the Black Sea, who according to his opinion must be put outside

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[1] This may be due to their intercrossing with the Armenians and also to cranial deformation : Chantre had occasion to measure 12 Curds in the environs of Erivan, and he says that 8 of them having a cranial deformation gave 84·62 as ceph. index, while four non-deformed gave only 81·6 (*Recherches anthropologiques sur le Caucase*. T. IV. cit, p. 262).

[2] *Cf.* Ivanovsky (A.A.), *Die Jesiden*, "Arch. f. Anthrop. N.F." IV, 1902, p. 509 (recension).

[3] Pittard (E.), *Anthropologie de la Roumanie. Contribution à l'étude anthropologique des populations sporadiques de la Dobrodia : Les Arméniens*. "Bull. Soc. Roum. des Sciences," XXI, n. 5, p. 366, Bucharest, 1912.

the Kartvelian and Georgian group.[1] This decision appears to us perfectly logical : the affinity between the Armenians, the brachicephalic Curds, the Lasi, the Aissori,—perhaps also the Bektasci of Licia and the Kyzilbasch of Mesopotamia—is much greater than that between them and the Georgians ; the first are all brachicephalous and in stature lower than the average, so that it appears reasonable that they should be collocated in a sub-variety as will be seen in our Table IV.

With the first, one may consider related, some of the populations of Syria : the Metuals of Lebanon, the Ansari of Antioch ;—Chantre[2] shows both of them as related to the Curds, and this may be accepted perhaps as referring to the brachycephalic Curds. According to von Luschan here are to be added also the Druses, the Maronits, and also those Semites who present the Armenoid type, about whom, notably among the Kyzilbasch, he disclaims absolutely any artificial influence.[3] The flat occipital form, in which the occiput comes straight down is accompanied by a rather high cranium. Pittard, although he denies that deformation has influence on the ceph. ind., since the deformation is not identical in all cases, nevertheless admits that it is there, and affirms that it consists principally "of a fronto-occipital compression making the parietal and the superior occipital region project more or less."[4] Chantre also is very explicit about the influence, as he admits, of infantile deformation, with regard to the Aissori,[5] the Lasi,[6] and the Aderbaijani, etc.,[7] as follows

[1] Pittard (E.), *Anthropologie De la Roumanie*, etc. : *Les Lazes* "Bull Soc. Roum. des Sciences" XIX, n. 5, pp. 918, 936, Bucharest, 1910.

[2] Chantre (E.), *Recherches anthropologiques dans l'Asie occidentale*, loc. cit., p. 159.

[3] Von Luschan (F.), loc. cit., p. 233.

[4] Pittard (E.), *Anthropologie de la Roumanie*, etc., *Les Lazes*. loc. cit., p. 916.

[5] Chantre (E.), *Recherches anthropologiques dans l'Asie occidentale*, loc. cit., p. 224.

[6] Chantre (E.), *Recherches anthropologiques sur le Caucase*, T. IV., cit., p. 91.

[7] *Ibid.*, p. 248.

also from the description of the cradle in use in Asia Minor where he says: "The infant being attached solidly, is laid upon its back and the nape of its neck does not take long to be flattened."[1] The deformed Curds we have referred to elsewhere.

However this may be, it is certain that among the Galchas and the Tajiks there prevails a different cranial form, that is platy-cephaly, and therefore we can infer the existence of a local sub-variety, *pamiriensis*. There are always, as characters of the *armeno-pamiriensis* variety, strong brachycephalism and a stature higher than the average. On the other hand the variety *georgianus*— shows slight brachicephalism and about medium stature, perhaps also a more pronounced leptorrhiny.

The Brachymorphus White can be followed East as far as the basin of the Tarim: in fact among the people of Cashghar there prevails a brachycephalic element which is not Mongolian, as we find from the notes that have been so diligently registered by the Englishman, Stein, in two journeys of exploration (1900-1901 and 1906-1908), in which he measured about 600 individuals. Joyce,[2] who has published a considerable portion of the

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[1] *Ibid.*, pp. 41-42. This custom seems to have originated in Central Asia as will appear from a comparison of the practice of the Kirghizi, according to a description by UJFALVY (*Les Aryens au nord et au sud de l'Hindou-kouch*, Paris, 1896, p. 397) "the Kirghiz women place their babies at the breast on a small board and attach them to it in such a way that the back of their head gets flattened by pressure." It is important to note that the Chinese traveller Hiouen-Thsang who visited Central Asia in 648, found the same custom prevalent towards the frontier of India and mentions it in two places: *cf.* UJFALVY (Ch. de), *Memoire sur les Huns blancs*. "L' Anthrop," 1898, n. 3-4, pp. 271, 276. A characteristic retreating forehead seems to me observable in the Hittites said to be prisoners of Rameses III, and I consider them to have deformed crania, thus constituting the most ancient documents of cranial deformation: see the fig. in MÜLLER (Max W.), *Asien und Europe*, pp. 323, 331.

[2] JOYCE (T. A.), *Notes on the Physical Anthropology of Chinese Turkestan and the Pamirs*. "Journ. R. Anthrop. Inst. XLII, 1912, pp. 467-468; see also by the same

data collected by Stein, gives specially the Wakhi[1] as a pure element—but more or less present in the majority of these peoples—closely related to the Galchas; therefore the Wakhi are collocated in Table IV beside the Galchas and the Tajiks: their stature is intermediate between the two. For the ceph. ind. (Table V) we must take note of the fact that Joyce affirms the existence of artificial deformation. Naturally many of these tribes are of mixed Leucodermic and Xanthodermic elements, and therefore we have omitted them, mentioning only a few among the "unclassified," a few of the *H. Asiaticus* and a few of *H. Indoeuropæus*. The subvariety *pamiriensis* is really related to the so-called *H. Alpinus*, to the Savoyards, etc., which fact has been misunderstood because of the idea that all of them were Mongoloids.[2] This is so far from the truth, that it is enough to say that they want all those characters that we have previously described as belonging to *H. Asiaticus*.

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author: *On the Physical Anthropology of the Oases of Khotan and Keriya. Ibid.* XXXIII, 1903, p. 312. The last one contains the data utilised by Ivanovsky; those of 1912 appear in part in my tables.

[1] We must show respect to the anthropological insight of Ujfalvy who made the same diagnosis about the inhabitants of Wakhan 40 years ago. In Vol. II, p. 156, of the *Expèdition scientifique Française en Russie en Siberie et dans le Turkistan*, he writes that the Sarikols of the Eastern slope of the Pamir represent the pure remnants of the same white type that "has exercised a decisive influence on the formation of the Kashgharians and the Tarantchi of the present day." While the Kashgharians do not now-a-days show any blonde element (op. cit., Vol. III, p. 49) yet we have the blondes among the natives of Siricol; this is to be placed in connection with the description given in the Chinese Annals of the inhabitants of Lake Lob, the Usun, who had blonde hair and blue eyes (op. cit., Vol. I, p. 159). It is very probable that at that time also only a minority of the white had such prominent characters as the depigmentation, which attracted so strongly the attention of all the brown peoples: *cf.* DE UJFALVY (Ch.), *Les Aryens*, etc., op. cit., p. 26, note 1.

[2] This preconceived idea is the thesis so strongly upheld by SERGI (G.), *Gli Arii in Europe e in Asia*, Turin, 1903, pp. 128, 133, against the theory of Ujfalvy who did not at all think that the Savoyards are Mongoloids. Notwithstanding the insistence of Sergi it is a theory completely rejected: *cf.* MENDES CORRÊA (A. A.), *Estudos de Etnogenia Portoguêsa* (*crânios braquicéphalos*). "Anais Scient. Fac. Med." Oporto, IV, 1918, n. 2, p. 67 of the extract; *cf.*, also HADDON (A. C.), *The Wanderings of Peoples*, Cambridge, 1911, p. 17.

We are thus arrived near to that region called Zungaria, which makes us think of the question of the origin of the Leucoderms, since we have already said that probably it bordered as much upon the anthropogenetic centre of the Leucoderms, as upon that of the Xanthoderms, according to our hypothesis of the plurality of the centres of differentiation in species and sub-species, *i.e.*, specific late centres. The first centre we have located in the N. W. of Asia, and we are inclined to believe that it originally was constituted of dolicho-mesaticephals, like the original yellow stock (it may then hardly be maintained that this skeletal character can ever have a great discriminative value!): this is in agreement with the skulls excavated in Turkestan mentioned above, and also with the fact that the earliest population of Siberia was made up of dolichocephals with European faces[1] as can be seen from the prehistoric crania found in the sepulchres of the upper valley of the Yenissei. We hold instead that the brachycephals with European faces are a variety of the more ancient branch, the above mentioned dolicho-mesaticephalic people, who settled by preference in a mountainous habitat.

Having stated this it is not without some interest to refer to what Ujfalvy says of the inhabitants of Zungaria: "It appears to me proved that the Dungani are a special people, of non-Chinese origin, and that in their composition have entered, without doubt, some elements that are neither Mongolian nor Altaic."[2] Although the Dungani have all of them hairless skin and a scanty beard, 'an unknown element must have ruled the formation of their type': the explanation given by Ujfalvy is that these

[1] Deniker (J.), op. cit., p. 424.

[2] De Ujfalvy (Ch.), *Les Kachgariens, Tarantches et Dounganes.* "Rev. d'Anthrop." II serie, T. II, 1879, p. 495.

'aborigines of Central Asia,' "are the descendants of the Sakas, the Yuechis, the Hiungnus and of the Uigurs, grafted upon the elements of a white autochthonous race."[1] A white autochthonous race of Central Asia implies the existence geographically near that region of an ancient leucodermic centre, as I have established on other grounds, and this coincidence can certainly not displease me, in as much as I am far from believing in the theories of those who specify Africa as the original seat of the white people.

Ujfalvy does not say whether this primitive race, before the yellow people were grafted on to them, was dolichocephalic or brachycephalic, but probably he was of our opinion favorable to the original dolichocephalic one, since a small series of 8 Dungani measured by him gave him the following ceph. ind. 74·85, 78·83; 79·0, 79·0, 79·89, 82·9, 84·49, 85·68, while in 8 Manchus he had all the ceph. indices above 80. In making this comparison he evidently wishes to suggest to the reader the improbability that the autochthonous people also had been brachycephalic, since in such a case we would not have among the present Dungani a majority of dolicho-mesaticephals.

In conclusion, this part of Asia, which ordinarily is given as the common seat of racial crosses, has perhaps an anthropological importance which is unsuspected by the vulgarisators of a certain simple system, and was acutely perceived by Ujfalvy alone. We persist in believing that the Leucoderms have migrated from the N. W. Asia, the last of whom the linguists divide into Eastern Aryans and Western Aryans. These last having gone farther from the original centre must have been the first to depart, and their exodus ended about the year 1800

[1] *Ibid*, p. 489.

B.C., at which epoch the Hittites, arrived in Asia Minor,[1] and probably had something to do with the complicated ethnical constitution of the modern Curds and Yesidi, "the last unconscious followers of the cult of Zoroaster."[2] Close affinities of a cultural nature have been found between the Hittites and the most ancient civilizations of Turkestan.[3] The language of the Hittites, which at last scholars have succeeded in reading, has turned out to be Aryan and is related to Tokhari of Turkestan: a most important fact is that it probably forms the bridge[4] between the Western European idioms and Tokhari.[5] The period of the migration of the Western Aryans being ended, there followed that of the Eastern Aryans, which, for Asia Minor, commences perhaps with the Mitanni (circa 1600 B. C.) and ends with the Iranians (850 B. C.); this then explains how the Curds linguistically are Iranians, without prejudice to an anthropological inheritance still more ancient, but not essentially diverse, since anthropology places the origin in the case of the Hittites, as well as of the Iranians, at a northern Asiatic centre, as we shall show later.

The special position of the Tokhari, we believe, cannot be explained unless one admits a series of successive

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[1] This is the date usually given, but on the cuneiform tablets the Hittites are already mentioned in the XXIII century B.C., *cf.* CONTENAU (G.), *Les Hittites, l'Orient et la Grèce*, "Rev. d'Assyriologie," XVI, 1919, pp. 97-106; and also AUTRAN (C.), "*Pheniciens.*" *Essai de contribution à l'histoire antique de la Mediterranée.* Paris, 1920, p. 95.

[2] CHANTRE (E.), *Recherches anthropologiques dans l' Asie Occidentale*, loc. cit., p. 93.

[3] GARSTANG (J.), *The Land of the Hittites*, London, 1910, p. 320.

[4] CUMONT (Fr.), *La Langue des Hittites.* "Compt.—rend. de l' Accad. des Inscript. et Bell.-Lett." March—April, 1907.

[5] Tokhari is said to be akin to the Western languages particularly to Italo-celtic, according to S. Levi ("Journ. R. Asiatic Society," 1914, p. 959),

waves, every one of which we suppose departed on its own account from Central Asia, according to the following scheme of arrangement which commences with those most ancient and hypothetical and ends with those which are the most recent and proto-historic :

(*a*) Primordial Leucoderms (Cro-Magnon ?),

(*b*) Proto-Aryan Leucoderms (proceeded to the plains of Eastern Europe)

(*c*) Western Aryan Leucoderms (Italo-Celtics),

(*d*) Aryan Leucoderms of the Desert of Takla-Makan (Language Tokhari)

(*e*) Aryan Leucoderms of Asia Minor (Hittites ? then Mitanni)

(*f*) Aryan Leucoderms of Iran and India.

One can no longer admit the old theory of the push *from behind*, of one legion following another, since in that case it would be incomprehensible how the Tokhari-speaking peoples of the basin of the Tarim could be found among the Italo-Celtics and the Hittites. Adopting instead the image of a centre of pulsation, which sent ethnic waves now in one direction now in another, the contiguity in space is no longer indispensable for explaining the contiguity of language. Anthropology has nothing that goes against, rather it comes to the support of the linguistic evidence, in view of the fact that the presence of the European face has been established among the present brachycephals of the Pamir and in the natives still remaining in the desert of Takla-Makan. Moreover, it is an established fact that here and there in Central Asia, one finds blondes, for which we have the authoritative testimony of Ujfalvy. "All the Iranians have chestnut hair, but one meets with blondes among them, more among the Tajiks of the plain than among

the Galchas. While in the last-mentioned tribe the blondes are 8 per cent. of the population, among the Tajiks of Fergannah we meet with 12 to 13 per cent. and in those of Samarkand up to 27 per cent."[1] These are the same proportions as are met with here and there in Europe, and this is natural, since Leucodermic Asia offers the same anthropological composition as Europe.

Looking at these things without prejudice one may add, that Leucodermic Asia is predominantly—and perhaps it was more so in ancient times than now—Aryan like Europe. As regards the question whether the blondes have had something to do with the Aryan language, we believe that it was so only as Nordic representatives. Evidently it is necessary to discard the thesis that depigmentation is connected with altitude, in view of the fact that Ujfalvy has been able to establish it as a fact that in the Iranians the blondism of hair diminishes with the altitude, as will be seen from the figures cited above, as also from what he writes :—"There is the same progressive variation on account of the altitude in the case of the beard. The Tajiks of Samarkand have 38% of blonde beard, those of Fergannah 36%, the Galchas taken all together 15% and the 43 Galchas of the high valleys of Zerafshan and of its affluents only 13%." Besides, it seems that the blonde Galchas have been specially sought for by Ujfalvy[2]; consequently the percentage must be still lower, and it seems it diminishes going towards the south : in Chitral blondism has few representatives (a few blondes were seen by Bonvalot), and in India it may be said that it is almost entirely absent.

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[1] De Ujfalvy (Ch.), *Résultats antropologiques d'un voyage en Asie centrale*, Paris, 1880, and in other places.

[2] De Ujfalvy (Ch.), *Les Aryens*, etc., op. cit. p. 485.

The fact that the Aryan language has come to the country does not take from the view that the Indian Peninsula makes up an extreme area of the leucodermic penetration, an area that is comparable with that of anterior Asia, which we have considered when speaking of the Curds and of their probable ancestors (in part), the Hittites. The dependence of both the areas on a common centre has become evident, after the great discovery of the treaty of peace of Boghaz-Keui, between the Mitanni king called Mattiuaza and the Hittite king Subbiluliuma, where among the gods invoked by the first appear the well known Vedic names of Varuṇa, Indra, etc. This confirms that the Aryan religion had been elaborated in the far north ; from the north it had been carried into the south of Asia, not by missionaries but by such migratory waves as we have arranged in the form of a systematic scheme.

Chanda draws two conclusions from it. The first is a highly justifiable conclusion : " There are strong evidences to show that in the sixteenth and the fifteenth centuries B.C., in Syria and upper Mesopotamia, there were several colonies of men of Aryan speech, some of whom at least worshipped Vedic gods. "[1] Less justified is the other conclusion that the Aryans have passed through Syria and Mesopotamia, absorbing " a good deal of Semitic blood," before they reached India.[2] We believe instead that the Aryans reached Iran directly from the north[3] and afterwards pursued two diverging paths, one towards the west, and the other towards the east. The

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[1] CHANDA (Ramaprasad), *The Indo-Aryan Races*, Part I, Rajshahi, 1916, p. 29.

[2] *Ibid*, p. 33.

[3] From *Airyana-Vaego*, a subarctic region to the north of Sogdiana, with ten months of winter (which explains the origin of the cult of fire), and two of summer, but always in a better condition of habitability than at present : *Cf.* MAUNDER (A. S. D.), *Iranian Migration before History*, " Scientia, " Vol. XIX, 1916, n. XLVI-2.

branch which went towards the west, more probably than the other, must have absorbed Proto-semitic populations.[1]

To the branch pushing towards the west we assign the Mitanni, probably related to the Hittites, according to Charles, who holds the Mitanni to be a Hittite people,[2] but the Hittites must have chronologically preceded them. The opinion of Söderblum, seems to us absolutely fantastic: he believes that the Hittites came from the coast of the Baltic, which coincides with Moulton's opinion[3] that the Aryans came to India across Russia. The crossing of the Caucasus by the Hindus towards 1700 B. C. is accepted also by Hüsing in accordance with the theory of the European origin of the Aryans, which does not appear to us now any more convincing.[4] We prefer the hypothesis of the bifurcation in Iran.

At the centre remained the ancestors (pro parte!) of the present Tajiks, of whom Khanikoff speaks as "the aborigines of the Persian race, who have been able to preserve their language and some traces of an ancient civilisation."[5] We have already seen that the Tajiks present the highest percentage of blondes in the whole of Asia. We add that the Nordic representatives in western Turkestan also appear far from the area of their origin: this distance serves to explain a fact noted by Ujfalvy, namely, that

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[1] The Jews were vassals or mercenaries in the service of the Hittites, according to Clay (*The Empire of Amorites*, New Haven, 1919), who believes that the Arab nations came originally from the North like the other Whites. The most ancient of these nations was already on the Middle Euphrates in the IV millennium B. C.

[2] *Encyclopædia of Religion and Ethics*, VI. 723*a*.

[3] Moulton (J. H.), *Early Zoroastrianism*, p. 5.

[4] The Asiatic origin of the Aryans has returned manifestly in favour, since it has been held by E. Meyer (Zeitschr. f. vgl. Sprachwiss. XIII, p. 16) that the Aryans remained in the region east of the Aral and Caspian until about 2000 B. C., and after that time began to make their way eastwards into India and south-westwards.

[5] Khanikoff, *Mémoire sur l'Ethnographie de la Perse*, Paris, 1866, pp. 90, 92.

"the blonde types among the Iranians are as brachycephalic as the chestnut-coloured and brown types."[1] This same fact is seen equally in Central Europe.

The branch that went towards the East and proceeded into India, being obliged to pass across the regions already inhabited by tribes related to the Mediterraneans and perhaps also, as we believe, by tribes akin to the Dravidians, appears anthropologically to have been very brown dolichocephals. But from what I have expounded it is evident, that it is useless and vain to ask, who were the Aryans, the Dolichocephals or the Brachycephals? The Aryan languages spread from a very northern centre, and that without any special regard for the brachycephals or the dolichocephals : this is our opinion, as can be inferred from what I have expounded above. It is clearly contrary to the theory of Sergi,[2] who calls the brachycephals round about Pamir "Mongoloids speaking Aryan," and assigns to them the task of Aryanising Europe. If they were of Mongolian origin there would not be any reason why in the centre of Asia, in the basin of the Tarim, they should be of European features. The only logical conclusion is that they are not Mongoloids. We also repeat what already Ujfalvy had to conclude from his own observation : " We see once again that we have here a white race which is highly brachycephalic."[3]

Leaving aside this preliminary so-called Aryan question—which it seems must remain an eternal riddle to be solved by extravagant inventions for personal amusement —we bring together, as we have done for the Xanthoderms, the anthropometric characters of the Asiatic Leucoderms. These are collected from Tables IV, V, VI : only I have

[1] De Ujfalvy (Ch.), *Expedition scientifique*, etc., Vol. III, p. 12.

[2] Sergi (G.), *Gli Arii*, etc., op. cit., p. 259. *Cf.* also pp. 132-133, 153-154, 256.

[3] De Ujfalvy (Ch.), *Expedition Scientifique*, etc., op. cit., Vol. II, p. 151.

excluded the stature of 14 Hebrews of Palestine which is too low, probably because of the smallness of the series. We have the following synopsis:

Summary II.

Anthropometric Characters of the Asiatic Leucoderms.

			Stature	Ceph. Ind.	Nas. Ind.
H. Indo Europæus.	Dolichomorphus.	European Variety[1]			
		Asiatic Variety:			
		Indo-Afghanus	1610-1684	71·3-77·5	64·4-74·1
		Indo-Iranus	1642-1683	80·0-82·8	67·8-74·8
		Irano-Mediterraneus	1633-1745	76·2-79·8	59·6-73·2
	Brachimorphus.	European Variety[1]			
		Asiatic Variety:			
		Armeno-Pamiriensis	1660-1707	84·1-89·5	62·6-72·0
		Georgianus	1646-1658	82·5-84·2	57·6-64·5

First of all we have to explain the rise in the ceph. ind. which is found in the *Indo-Iranian* variety, a rise that seems a little in contradiction to the systematic position of this variety. Analogous to what we see in Tuscany, where besides the brachycephals and the dolichocephals there exists a most remarkable proportion of a middle type —perhaps a product of convergence from intermixtures for thousands of years of the other two—similarly also in Iran and in Beluchistan (*cf.* Table VI) we have a type which by a little extension we may continue to assign to *H. Indo-europæus dolichomorphus*, but which in reality is on the border line between mesaticephals and brachycephals, sometimes more inclined towards the latter than the former. To save ourselves from the blame of reasoning upon averages, we say that many Pamirian brachycephals ought to be recognised individually, exactly as in

[1] Not considered here. *H. Indoeuropæus* has no linguistic significance but rather that of *H. albus* or *H. occidentalis*.

the case of many dolichocephals of the Indo-Afghan type; but it is not possible for us to make this discrimination in the averages, and as we hold it probable that in reality there is a large proportion of the intermediate type, thus—until proved to the contrary—we can indicate this fact as another result of convergence by intercrossing, comparable to what we have in Tuscany, where the percentage of the dolichocephals and the brachycephals, Alpine type or other, is much reduced thereby. According to our idea, the Indo-Iranian variety should have also the ellipsoid, ovoid and pentagonoid forms as we have in *H. Indo-europæus dolichomorphus*, but broadened, thus reaching eventually also the initial point of brachycephalism. This broadening of the elongated forms I have always observed in the areas of intense miscegenation between the dolicho-mesaticephals and brachycephals, and I have no difficulty, theoretical or preventive, against such possibility in Persia and in Beluchistan: perhaps it is only an elimination of the extreme forms, which become more rare.

I do not deny in any way that the Mongolian brachycephals came to this part of Asia and that they are still represented there (if there are also so many in European Russia!), but these are easily recognisable by other characters, that is to say, by the characters of *H. asiaticus*. As a matter of fact, the Hazaras of Afghanistan, of whom 200 gave as stature 1684 mm., ceph. ind. 85·0, nas. ind. 80·5, have not only the character of brachycephalism (which in itself is so little Mongolian!), but also that of mesorrhiny, and the lowest orbito-nasal index (111·2) among all the population of the so-called (erroneously) Turko-Iranian type[1]; they have frequently oblique eyes or eyes with the characteristic Mongolian fold, the absence of hairiness and all the other signs of the Mongolian

[1] *Cf.* Risley (H. H.), op. *cit.*, p. 395.

stock.[1] The anthropometric characters show their relationship with the Carakirghizi and also with some of the tribes of Cashghar, that is to say, with the Loplik in stature and with the Cheria in the ceph. ind. and nas. index, but specially with the Turfan Taranchi who have been measured by Stein (Joyce), and whom I have assigned to *H. asiaticus centralis*. So I did the same in the case of the Hazaras, as soon as the nasal index warned me that I was not dealing with Leucoderms, but with an extreme offspring of the Mongolian race, and in examining the descriptive characteristics I found my opinion confirmed. But how can we assign the Chhuttas and the Bandijas of Beluchistan to the Mongoloids only because they present a strong degree of brachycephalism, while they have a nas. index of 58·6 and 59·9 respectively and an orbitonasal index of 124·3 and 122·6 respectively? Allowing that the colour of the skin is of no account, do we wish also to leave aside the facial characteristics, which involve also the morphology of the skeleton of the face? Certainly one may reject everything that is disturbing, but one must not pretend that the result, thus "selected," is an objective classification and much less that it is naturalistic: and to be proud of it seems to me absolutely ingenuous as nothing indeed is easier.

We do not wish to pass over in silence the fact that it has been said to satiety by Sergi that in this part of the globe we have to do with a mixed variety or species, but to accept such a diagnosis would be equivalent to accepting the Sergian classification, which considers all the

[1] See the physical description in SAINT MARTIN (V. de), *Nouveau Dictionaire de Geographie*, Vol. II, Paris, 1884, p. 655. It shows that the Hazaras are pastoral Mongols established in the western parts of Afghanistan for many centuries, as they are mentioned as living there in the year 1265 by Abul Fazl, who notes that 77 years before Khorassan had been abandoned by its inhabitants, hence the ethnic change may be thrown back to 1188.

brachycephals as Mongolians or Mongoloids[1], whatever other characters they may possess in all the rest of their body and in whatever parts of Europe or of Asia they may be found[2]. In the same way that De Lapouge said that with a little of the yellow tint France would be a country of true Mongolians[3], so the Sergian craniological simplicity would conduct us to the same result that is manifestly the most one-sided conclusion and only founded upon a simple premise. Quite different are the results which one arrives at whenever one does not accept with closed eyes the very simple criterion that brachycephalism always marks out a Mongoloid, which is equivalent to saying—and it does not matter that this is not declared in an explicit fashion, seeing in fact that there is no other systematic criterion—that this sole character is sufficient to settle the question of races. We—and with us almost all anthropologists—prefer the definition of Pittard, one of the few who have travelled to study the human races *in situ* and have found themselves faced by the reality, which is so very different from mere verbal creations. "A human race is not characterised with the aid of a single morphological definition. It is the association of several characters, found among all the individuals of the same group, that determines the *race*."[4] Practically,

[1] Sergi (G.), *Europa*, op. cit., p. 551, "Although of hybrid origin these Euro-Asians are Mongoloids."—This is the conclusion to which above all he sticks. A few pages afterwards the same author adds: "A species derived from *Homo Asiaticus* in its skeletal characters."

[2] He excludes America, which is incomprehensible, if this skeletal character should have such a preponderating discriminative value; but in reality it is not a skeletal character that has any specific (or eventually, 'generic') value when not accompanied by other concomitant characters, and this is the reason why the Sergian system rests condemned. *Cf.* with regard to the absence of such concomitant characters, Giuffrida-Ruggeri. (V.), *I caratteri craniologici degl'Indonesiani*. "Arch. per. l'Anthrop. e l'Etnol.," XLVI, pp. 148-150.

[3] De Lapouge (V.), *Race et milieu social*. Paris, 1909, p. 70.

[4] Pittard (E.), *Les caractères anthropologiques principaux des populations balkaniques*. "Le Globe." T. 56, Mémoires. Geneve, 1917, p. 88. Pittard notes, for

all the results of Summary II, which are obtained from the measurements taken upon many thousands of individuals (the number of the persons examined can be seen in the Tables), compared to those obtained on a number still more imposing of Xanthoderms (Summary 1), show that the principal difference resides in the diversity of the nasal index. The difference may be seen from the fact that in the nasal index of the Leucoderms the average does never go up to 75, whereas in the Xanthoderms it almost never goes down below 70, which is evidently due to the greater nasal width of the yellow race. This difference is so precise that Pittard gives it among the diagnostic signs for distinguishing the Mongoloids from those that are not so in anterior Asia [1]; it serves us moreover to make the anthropological comparison between the yellow and the white. An important difference may be seen also in the stature, which in the Leucoderms of Asia, always of course in the average, never goes down below 1610 mm., while in the Xanthoderms it goes down so far as 1540; in the upper limit, however, there is no difference, so that one may say that this character has a greater range among the yellow people than among the white. The difference in the ceph. ind. is less marked, because we have in the yellow as well as in the white as many of the dolicho-morphic variety as of the (later) brachy-morphic variety; the first, however, are rather mesaticephalic in the Xanthoderms, so that the ceph. ind. does not go down, on an average, below 75·9, while in the Leucoderms the minimum in the

example, that the Curds, the Lasi and the Armenians have no relationship with the Tatars, although they are equally brachycephalic: this absence of affinity follows from the other anthropological characters, which are held therefore in greater account than the ceph. ind. itself, when one proceeds to the classification of larger human groups.

[1] *Ibid.*, p. 74.

series, that is to say, the lowest average, is 71·3. The aboriginal skull did not show any morphological differences between those who should become white and those who should acquire the yellowish tint.

Let us here briefly note that craniological studies when made without preconception lead to the same results. Thus Reicher came to the conclusion that the cerebral skull shows a great similarity between Alpine brachycephals and Mongolian brachycephals, whilst their facial skull shows great differences.[1] He adds that from his inquiries he does not find that the facial skeleton is to be held more variable than the cerebral skeleton; thus one may believe that the acquisition of brachycephalism took place in the two races (whether they are varieties or species) in an independent way from either similar or diverse influences, which had the same result. In fact it would be more difficult to explain why, having aboriginally the same brachycephalic shape of cerebral skull—which is after all only an envelope!—there have taken place so many skeletal (facial), tegumentary and other differences. But we must here limit ourselves to the anthropometric characters, to which we must return.

If we take into consideration the unclassified ethnic groups, which are added to the various tables, we find it confirmed from Tables I and IV that stature has as its lower limit a figure which is much less (1583) in the Xanthoderms than in the Leucoderms (1624) and that it reaches the same higher limit (1700) in both. From Tables II and V we find that the unclassified Xanthoderms are arranged by the ceph. ind. half among the mesaticephals and half among the brachycephals, and almost the same thing is met with among the Leucoderms. Lastly, in

[1] Reicher (M.), *Untersuchungen über die Schädelform der alpenländischen und mongolischer Brachycephalen. II. Vergleich der alpenländischer brachycephalen Schädel mit den mongoloiden.* "Zeitschr. f. Morph. u. Anthrop.," Bd. XVI, p. 64.

tables III and VI—leaving aside the Dungani, as it is difficult for me to believe that they really have a nasal index of 56·12—almost all the unclassified Xanthoderm groups have the nasal index above 70, and it goes up to 94·3, while among the unclassified Leucoderms only a half have the nas. ind. higher than 70, reaching up hardly to a maximum of 76. The way in which I have arranged the averages collected from the literature, facilitates comparison between the two species that people almost the whole of the Asiatic continent, and show us also the differential characters, as for example those of the *Georgian* variety, which is prominent among the leucodermic varieties, being the lowest in stature and the most leptorrhine.[1]

The isolation of this variety is a new result in the anthropological camp, but I hope that it will be welcome, thanks to the determination made by me. It must be added that it finds a parallel in the linguistic science, which distinguishes a group of Caucasic languages detaching them from the Aryan (Indo-Germanic) stock and among such Caucasic dialects is found precisely the Georgian.[2] Evidently it is not intended to say that the anthropologic area (we do not know yet how wide it is) and the linguistic one are coincident. Less still are we able to discover how far these two areas extended in prehistoric times, if in fact the Hittite language should be Caucasic, as Hüsing believes,[3] and if even the Chaldæns are to be counted among the Caucasic linguistically.

[1] The results of the study that was being made on the prisoners of war from the Caucasus by Prof. Pöch at the initiative—fortunately seconded by the authority—of the Academy of Science and of the Anthropological Society of Vienna, are not yet published in detail.

[2] Finck (F. N.), *Die Sprachstämme des Erdkreises*, Leipzig, 1909, p. 36.

[3] Hüsing (G.), *Völkerschichten in Iran*, "Mitteil. Anthrop. Gesellsch." Wien, 46, 1916, p. 224. According to Hrozny the Hittite language of the inscription of Boghaz Keui must be Indo-European, on the other hand, Prof. A. H. Sayce writes me (Nov. 30, 1919) that it is not, but contains only a large, borrowed,

What one can concede is that the "Caucasic" stratum is anterior to the Aryan, since practically its distribution in space is so reduced as to make it possible to consider it as nothing but residual. Chronologically we have no difficulty in pushing it up to 2700 B.C. as Hüsing would have it.[1]

Indo-European element, which is Sanskritic, which confirms that a "Vedic" tribe was in Asia Minor at that time. By Dr. Cowley is also maintained that "the language of the scribes" of the Hittite Empire was a "mixed language": *cf.* Cowley (A.E.), *The Hittites*, Oxford, 1920.

[1] *Ibid.*, p. 243.

III

In Leucodermic India the anthropological composition is not the same everywhere. The strongest dolichocephalism is found in the true Aryan region, properly called *Aryandom* (which seems to be the Vedic group: the Punjab, Rajputana and the United Provinces), called also the Midland, as distinguished from the other regions called "Outer Countries." In all the castes of the provinces that now represent the above-mentioned *Aryandom*, and also among the Maithil Brahmans of Bihar, the dolichocephals prevail, there being only 25% of the mesaticephals and 1·5% of the brachycephals among living subjects, which again is reduced to zero in the skeleton. *Vice versâ*, in the most typical castes of the outer zone, with the exception of Bihar, we have a prevalence of mesati-brachycephalism. Hence Chanda arrives at the conclusion that "not only social institutions, and language, but an important physical feature also, the shape of the skull, show that the *Indo-Aryans of the outer countries originally came from an ethnic stock that was different from the stock from which the Vedic Aryans originated.*" [1]

The difference in the cephalic index between the Biharis above mentioned and the Bengalis, will be seen from the following Summary which brings together the measurements taken by Chanda himself in 1909 and 1910 and now published.

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[1] Chanda, R. *The Indo-Aryan Races*, Part I, Rajshahi, 1916, p. 59.

SUMMARY III.

Tribe or Caste.	Locality.	Percentage of cephalic Index.						
		Individuals.	X—69·9.	70—72·4.	72·5—74·9.	75—77·4.	77—5·79·9.	80—O.X.
Bhumihar Brahmanas ...	Bihar	25	4	16	28	32	8	12
Maithils	„	50	18	26	26	14	12	4
Rajputs or Chhatris ...	„	44	6·8	25	22·7	20·4	11·3	13·6
Kananjiya Brahmanas ...	„	25	4	32	28	20	0	16
„ „ ...	United Provinces and Oudh	63	5	25	33	23	8	6
Brahmanas	Bengal	31	0	6·5	13	19·5	16	45·5
Pāścatya Vaidik Brahmanas	„	50	2	0	4	22	26	46
Kayasthas	„	30	0	6·6	20	17	20	36·6
Tilis or Taulikas ...	„	25	0	4	4	8	40	24
Vaidyas	„	14	0	0	35·7	21·8	14·3	28·6
Rāḍhīya Brahmanas ...	„	35	0	2·9	17·2	28·6	14·3	37
Varendra Brahmanas ...	„	76	0	4	12	26	21	37

Likewise from the measurements published by Risley[1] will be seen the very great difference that exists between the Brahmans of Eastern Bengal who show 35% of brachycephals (in living subjects) and the Brahmans of the United Provinces, who have only 2%, or the Rajputs of Rajputana who have hardly 1·1% : we are here confronted by the problem of the brachycephals of India. Risley has quite rightly been preoccupied with this different bearing and he has explained it by assuming[2] a Mongolo-Dravidian origin for the Bengalis and Oriyas. But here too it is only a confusion that leads one to talk

[1] *Ethnographical Appendices* to "Census of India," 1901, Report.

[2] RISLEY (H. H.), *Tribes and Castes of Bengal*, Calcutta, 1891-1892; *The People of India, op. cit.*, p. 33.

absolutely of the brachycephals, while we have to distinguish between the brachycephals, with truly Mongoloid affinity—affinity which is revealed by other characteristics—and the brachycephals with Pamirian, that is to say, European, affinity, who have nothing to do with the former. In Nepal and in Assam, where "Men with Mongoloid physiognomy still predominate,"[1] it is justifiable to ascribe the brachycephals that are found there—and they are a minority—to Mongolian infiltration and therefore to call them Mongoloids. It is the mesorrhine, platopic, brachycephalic type, of low stature and yellowish complexion whom Risley himself found along the Northern and Eastern frontiers of Bengal.[2]

But the Brahmans mentioned above measured by Chanda did not show any Mongolian feature, and Chanda excludes it in general from the Bengalis and Oriyas, who, against Risley's hypothesis, possess neither the Mongolian nor the Dravidian type. This proves, in fact, that the above hypothesis is inconsistent, since the invasion by Mongolians—and in large numbers—would have to precede the introduction of the Aryan language and culture in the territories of Bengal and Orissa; but not one argument is there that would favour such a prehistoric Mongolian migration, and on the other hand also a Mongolian invasion could be composed of mesaticephalic people as it has been in the case of the Avars in Europe, and it is high time to do away with the prejudice that a Mongolian invasion and an invasion by brachycephals are one and the same thing.

The same inconsistency is presented by the explanation that Risley offers for the brachycephals in the western

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[1] Chanda (R.), *op. cit.*, p. 68. Nevertheless the major part of these Mongoloids do not show the brachycephalic skull; see Table II at the end of this sketch.

[2] Risley (H. H.), *The Study of Ethnology in India*. "Journ. Anthrop. Inst." XX, 1891, p. 258.

part of the peninsula: he supposes that among the Gujrathis, the Marathis and the people of Coorg the brachycephals, who however are found in an appreciable proportion, are of Scythian origin. It is easy to object, as Chanda has done,[1] that the Scythians exercised a very brief dominion over the northern and western periphery of the Deccan and cannot be regarded as the progenitors of an immense mesati-brachycephalic population. These nomads of central Asia, who followed the Bactrians and the Parthians into India in the centuries immediately preceding and just beginning the Christian era, and are generally known as the Indo-Scythians, were certainly brachycephalic, according to Chanda, but too few in number, as is demonstrated by the fact that in the north of the peninsula, they have not succeeded in modifying, in the least, the indigenous physical type which has remained predominantly dolichocephalic. Much less, therefore, were they able to modify the physical character of the Dravidians of western India where their dominion was still more brief and intermittent: instead, even as far as the remote district of South Canara, in the coastal regions to the east of Mysore, we find the cephalic index (50 Billavas) to be 80·1. Evidently *the introduction of the brachycephals must go back to a prehistoric epoch*, covering an area much wider than that of the Indo-Scythians, as is seen from the examples in Summary IV, which I have taken from Thurston.[2]

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[1] Chanda (R.), *op. cit.*, p. 67. The hypothesis of the Mongoloid invasion from Central Asia to account for the presence of the brachycephals in Western and Southern India, has been rejected also by Crooke (W.), *Rajputs and Mahrattas.* "Journ. R. Anthrop. Inst," XL. 1910, p. 46.

[2] Thurston (E.) and Rangachari (K.), *Castes and Tribes of Southern India*, Madras, 1909, Vol. I. Introduction, Tab. A and B. The same data are also found in part referred to by Risley, *The People of India*, op. cit. App. III, p. 398; the series of the Coorgs I have taken from that work, p. 334; I have omitted the other brachycephalic series which the reader may find in Risley, op. cit., p. 398.

Summary IV.

Tribes of the Southern Deccan.

Names of the Tribes.	Language.	Individuals	Stature.	Ceph. Index.	Nasal Index.
Holeya ...	Canarese	50	162·8	79·1	75·1
Bedar (Adoni) ...	„	25	...	79·4	...
Kuruba (Hospet) ...	„	50	162·7	78·9	74·9
Mandya Brahman ...	„	50	165·7	80·2	73·0
Caniga (Bellary) ...	„	20	164·3	80·5	73·7
Wakkaliga (Mysore) ...	„	50	167·2	81·7	73·0
Linga Banajiga (Adoni) ...	„	30	163·4	80·1	74·1
Rangari (Bellary) ...	Marathi	30	161·3	79·8	73·6
Suka Sale ...	„	30	160·3	81·8	74·8
Sukun Sale ...	„	30	161·1	82·2	74·8
Billava ...	Tulu	50	163·2	80·1	72·6
Komati ...	Telegu	25	...	81·0	...
Curg ...	Kudagu	32	168·7	79·9	72·0

Whoever has any experience of figures knows that such a high average cannot be obtained without a certain percentage of brachycephals.

As regards the rise in the cephalic index that is observed in a still more remarkable degree in Beluchistan (*cf.* Table V) we have suggested, while speaking of the *Indo-Iranian* variety, that brachycephal individuals may belong, either to the *Pamirian* variety, as is probably the case with the Chhutas and the Bandijas, or to the *Altaic* variety, as we have demonstrated for the Hazaras, who are more to the north (Afghanistan). The influences of Central Asia accepted by Risley[1] are too vague and the denomination of "Turco-Iranian type" adopted by

[1] *The People of India*, op. cit., p. 66.

him is not very happy: differing from Sergi, he does not believe that here we have to do with Mongoloids, not even in the case of the Hazaras,[1] which, instead, he should have been able to concede.

On general lines this is how Chanda writes: ".....the physical anthropology of the Pamirs and Chinese Turkestan, as gathered from data collected by Ujfalvy and Sir Aurel Stein, indicates that we need not lay the Turks, the Scythians and the Mongolians under contribution to explain the presence of broad or medium heads among outlandic Indo-Aryans or Indo-Afghans."[2] Chanda believes that the hypothesis of Haddon may be really true: "it seems quite possible that these brachycephals are the result of an unrecorded migration of some members of the Alpine race from the highlands of south-west Asia in pre-historic times."[3] At that time it must have happened that when penetrating into India the immigrants of the type of *Homo Alpinus* found the middle portion of the Gangetic plain (the above-mentioned "Midland") in possession of the Vedic Aryans, and thence they proceeded to a lower territory, and, leaving aside the table-land of Central India, they descended along its eastern border as far as Orissa. Other waves of the immigrants descended along the western side, passing into the peninsula of Kathiawar and the Deccan. The last wave may have been that of the people speaking the Piśācha languages (the Kashmiris,

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[1] *Ibid.*, p. 36.

[2] CHANDA (R.), op. cit., pp. 70-71.—It gives me great pleasure to state that Chanda in his work referred to, which I have received from India after my note already cited, "*A proposito di alcuni risultati anthropologici*" etc. (published by me in the "Rend. della R. Acc. d. Sc. fis. e mat. di Napoli"), makes the same appraisement of the very unequal worth possessed by the facts gathered by Ujfalvy and Stein and by the hypotheses adopted formerly by other authors.

[3] HADDON (A. C.), *The Races of Man*, London, pp. 60-61; *cf.* also of the same author: *The Wanderings of Peoples*, Cambridge, 1911, p. 27.

the Darads and the Kafirs of the Hindukush), because the characteristics of such dialects are found in the majority of the languages of the Indo-Aryans of the outer zone.

There is, however, a difficulty: the Kafirs, the Kashmiris, etc., appertain to the dolicho-mesaticephals, of the Indo-Afghan type. Probably Chanda is more correct when at last he comes to the conclusion that the Piśācha peculiarity of such dialects might not have been derived from the invaders of Piśācha languages, but from invaders akin to the brachycephals of Eastern Turkestan who passed through the Hindukush and Kashmir where the above linguistic peculiarities have been better preserved. At present it is important to add that the brachycephals of Eastern Turkestan also, with the exception of the few Kirghizi and Taranchi, are prevalently of an European face, according to the researches of Stein published by Joyce. Their presence in some percentage—I do not think that they form the majority: (1) because Eastern Turkestan is not wholly peopled by brachycephals; (2) because the regions lying on the way to India are populated by dolichocephals—explains how as a consequence of their passage across Kafiristan and Dardistan, the cephalic index goes up in the case of the Kafirs and the Dards as compared with the Panditi, Pahari and Kulu-Lahuli, preserved in an out-of-the-way area, on the southern slopes of the Himalayas.

Crooke also declares that the hypothesis of the Huns or Scythians [1] is baseless for explaining the percentage of brachycephals found in southern and western India, but

[1] Crooke (W.), loc. cit., p. 48.—Sergi (*Europa*, op. cit., p. 447) declares that he is unable to explain the differences between the Scytho-Dravidians and the Dravidians pure, but does not accept the Scythism.

holds that they came in prehistoric times perhaps by the sea-route.

Our opinion, while for leucodermic India it is in favour of the Haddon-Chanda hypothesis, would, for melanochroid India, be in favour of another solution : this is the problem of the black brachycephals.

We think that the solution of such a question, is to be sought in the prehistoric ethnic stratification which can be reconstructed for the regions to the west of Hindustan. There are many indices of a primitive stratification with equatorial characters, characters which, while they are quite different from those of the white and the yellow races, comprehend in their morphology also those of the Negritos. Lately, Hüsing has admitted that in fact a coastal race of Negritos does appear as the most ancient population between India and the Persian Gulf.[1] Later, according to the same scholar, the interior of Iran might have had a Dravidian population, remnants of which are still to be found there, just as woolly-haired Negritos were preserved in Susiana up to historic times.[2] Now, the Dravidians, travelling from Iran into India, would have brought with them more brachycephalic elements, as we may suppose that these Negritos were, who anyhow are not wanting even in the Indian Peninsula. A band of Negritos is spread along the southern regions of Asia, and probably also Arabia—the terminal portion of anterior Asia, and comparable with regard to its geographical position with the Deccan, the terminal portion of the sub-Himalayan region—owes to the Negritos the elevation of the cephalic index among the inhabitants of the south.

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[1] Hüsing (G.), loc. cit., p. 242.

[2] They are those referred to as Negroids in the work of Dieulafoy, *La necropole de Suse.*

The southern Arabs do not appear in the tables that I have prepared, since they represent an anthropological problem, it being not even quite certain that they are Leucodermic : those whom I have seen in the battalions of the Erythræan "Ascari" made me suspect that they were not so. At any rate, I can give here some averages about their stature and the cephalic index : from 147 southern Arabs measured by various authors Seligman[1] has shown lately that 13 (8·5%) are dolichocephalic, 56 (37·5%) mesaticephalic, and 78 (53·3%) brachycephalic. The averages that have been obtained from the various series are as follows :

SUMMARY V.

Southern Arabs.

	Individuals.	Stature.	Ceph. Ind.	Authors.
Arabs of Muscat ...	31	164·9	78·28	Leys & Joyce.
„ Sheher ...	82	161·6	80·92	„ „
„ Yemen ...	20	164·8	81·07	„ „
„ „ ...	16	163·6	83·56	Livi.
„ „ ...	25	165·1	82·56	Mugnier.
„ „	9	160·5	79·50	Puccioni.

The cephalic indices of Livi on account of technical reasons are higher by about one than the indices that I have from other authors : with this correction it will be seen that the data in Summary V correspond exactly to those of Summary IV, for stature as well as cephalic index.

The doubt that Southern Arabia also owes its tendency to brachycephalism to an ancient negritoid substratum is made valid by the low stature of the Southern Arabs and

[1] SELIGMAN (C. G.), *The Physical Characters of the Arabs*, "Journ. R. Anthrop Inst.," XLVII, 1917, p. 218. One finds further results in PUCCIONI (N.), *Studi sui materiali e sui dati antropologici col etnografici* ecc. "Arh. per l'Antrop. e l'Etn.," XLVII, 1917 e XLIX, 1919.

also by the few examples of curly hair which are found among them.[1]

Amongst the Hebrews also curly hair appears fairly frequent and it is sometimes accompanied by thick lips, although the Hebrews like the Arabs came originally from the north. But they descended so far towards the south as to meet those groups of dark natives, negritoids and others, which at that time extended from the mountains of Elam to those of Abyssinia and, by crossing with these, some have taken some somatic characters from them, as somatic characters are—as is known—transmissible separately.[2] Chronologically the descent of the Proto-Semites towards the equator must be placed at the same epoch as the peopling of Northern Africa by the Whites.

According to my opinion Africa did not intervene at all in peopling Asia. We have already said that according to Matthew's hypothesis successive waves left an anthropogenic centre situated in Central Asia, but this anthropogenic centre is in my opinion the leucodermic one. I place farther south the anthropogenic area of the more or less dark equatorial races, who are not necessarily all dolichocephalic : the same twofold division can be proved to exist, as among the Leucoderms and the Xanthoderms, so also in the other, more or less Melanochroid stock. I do not hold the preconception of Virchow of having water-tight compartments of the dolichocephals and brachycephals, adopted by the (Italian) polygenist anthropologists, as the greatest argument against the one origin for them both, which was far from the thoughts of Virchow himself. On the other hand, Sergi himself has not been able to unite together all the brachycephals of this world, which signifies that, according to

[1] For all these somatic comparisons *cf.* GIUFFRIDA-RUGGERI (V.), *Affinità antropologiche fra Etiopici e Arabi meridionali.* "Annuario R. Istituto Orientale di Napoli," anno accadem. 1919-20.

[2] *Cf.* GIUFFRIDA-RUGGERI (V.), *L'uomo attuale*, op. cit., Cap. I.

Sergi, somewhere else (in America, for example), they have originated together with the dolicho-mesaticephals; and if this has happened once or twice, it can also have happened three or four times.

Leaving aside this old fundamental difference, I am in accord with Sergi in the estimate of the closer affinity he perceives between the Dravidians and the Ethiopians with the exception of the Somâls and Gallas whose stature is too high. He says [1] that he does not find an affinity, anywhere else, with these Dravidians except in that African variety. I have precisely subdivided that variety into two sub-varieties, one of high stature and one of medium stature [2]: hence it is principally with this latter sub-variety that the aforesaid resemblance of *Homo Indo-africanus Dravidicus* shows itself. Sergi rightly separates from the Dravidians a highly platyrrhine type and of a stature less than medium, showing the greatest affinity with the Veddahs,[3] and together with this second type he also perceives a third, here and there in the peninsula specially among the Kadirs, which type is also platyrrhine and of a low stature but with short and woolly hair and a Negroid face.[4] They are the remnants respectively of the Australoids and the Negritos, who were afterwards more clearly placed in relief by Biasutti. [5]

We think that the following *ethnic stratification* can be given for India, commencing with the more ancient strata:

(*a*) Negritos
(*b*) Pre-Dravidians (Australoid-Veddaic)
(*c*) Dravidians (having affinity with *H. Indo-africanus Æthiopicus*)

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[1] Sergi (G.), *Europa*, op. cit., p. 469.

[2] Giuffrida-Ruggeri (V.), *Nuovi studi sull' antropologia dell' Africa orientale.* "Arch. per l'Antrop. e l'Etn." XLV, 1915, fasc. 2, p. 176.

[3] Sergi (G.), *Europa*, op. cit., p. 452.

[4] *Ibid.*, p. 450.

[5] Biasutti (R.), op. cit., pp. 99-100.

(*d*) Tall dolichocephalic (Mesopotamic?) elements (Toda).

(*e*) Dolichocephalic Aryans (*H. Indo-europæus dolichomorphus*).

(*f*) Brachycephalic Leucoderms (*H. Indo-europæus brachymorphus*).

These last, therefore, are in much attenuated proportion, as we have already said.

Our theory is that the Pre-Dravidians are Australoid-Veddahs and are not to be confused with an oriental extension of the Mediterranean race as Ripley thinks, or with Elliot-Smith's "Brown Race," whose anthropological consistency is somewhat equivocal, nor with Mitra's[1] Indo-Erythrean race, which embraces the pre-dynastic Egyptians also and is supposed to be Pre-Dravidian. On the contrary we believe that for the countries surrounding the Erythrean sea—pre-historic Egypt included[2]—it is sufficient to admit a type with Proto-Ethiopian characters (*i.e.*, having Dravidian affinity), and not with Pre-Dravidian, *i.e.*, Australoid-Veddaic characters.

It would be useful to see what physical characters are presented by the pre-historic skulls of India mentioned by Mitra, especially those of Bayana, which he refers to as of Pre-Dravidic Veddah type, and those of Adichanallur, which, according to Lapicque are also Pre-Dravidic but in a different sense from ours *i.e.*, rather negroid. There is lacking, up to the present a good illustration of all these materials,[3] but we hope

[1] MITRA (P.), *Prehistoric Cultures*, etc., op. cit., p. 183, and also *Prehistoric Arts*, etc., op. cit., p. 60.

[2] *Cf.* GIUFFRIDA-RUGGERI (V.), *Were the Pre-dynastic Egyptians Libyans or Ethiopians?* "Man" XV, 1915, no. 1; and also: *A few notes on the neolithic Egyptians and the Ethiopians.* "Man," XVI, 1916, no. 6.

[3] Six of these skulls, which are in the Madras Museum collection gave THURSTON (op. cit., Introduction, p. xxvi, see there fig. *b*) four ceph. ind. below 60, but the other characteristics of these interesting prehistoric hyperdolichocephals of Southern India are unknown: one of these skulls is shown by Thurston in norma lateralis, it is prognathous with a receding forehead; on the whole they seem to show characteristics which are much less frequent in the actual population.

to have it soon with the progress which Anthropology is making in India, where the official teaching of this science has already been initiated and has been trusted to natives of the country, who are the most likely to know themselves and their past.

The Pre-Dravidians were followed by a finer type : although dark-skinned, the nose was less wide and not so deep at the root as in the Veddahs, and the profile much less prognathous, really almost orthognathous. It is the Dravidian type, akin to Ethiopian (not Negroid, but in our sense!).

If we arrange a series of jungle tribes in the order of descending nasal index, it will be seen, as we advance from the platyrrhiny to the mesorrhiny that there is an increase in the proportion per cent. of the Dravidian type, which we consider as mesorrhine, as contrasted with the type of their predecessors whom we consider as platyrrhine. This is seen in Summary VI taken from Tables A and B of Thurston.

SUMMARY VI.

Tribes of the Southern Indian Jungles.

	Individuals.	Stature.	Ceph. Index.	Nasal Index.
Panyan	25	157·4	74·0	95·1
Kadir	23	157·7	72·9	89·8
Kurumba	22	157·9	76·5	86·1
Sholaga	20	159·3	74·9	85·1
Irula of the Nilgiris ...	25	159·8	75·8	84·9
Mala Vedan	25	154·2	73·4	84·9
Kanikar	20	155·2	73·4	84·6
Paliyan	26	150·9	75·7	83·0
Chenchu	40	162·5	74·3	81·9
Urali	57	159·5	74·6	80·1

The Paniyans live in Wynad and parts of Malabar and of the Nilgiri district, and are described as "a dark-skinned tribe, short in stature, with broad noses and curly or wavy hair."[1] At the top of the platyrrhines as they are, it is astonishing that Risley, who refers to the same figures, considers them as characteristic Dravidians. It is seen that the conception of the Pre-Dravidian type was unknown to Risley and hence he was unable to characterise adequately the Dravidian type, which begins to appear solely in the last representatives of Summary VI but must be much diffused among the tribes of Summary IV: this type is especially represented by the tribes which we place together in the following Summary VII according to the data of the census of India.

Summary VII

Typical tribes of Homo Indo-africanus Dravidicus.

	Individuals.	Stature.	Ceph. Index.	Nasal Index.
Kota of the Nilgiris ...	25	162·9	74·1	77·2
Badaga	40	164·1	71·7	75·6
Kurnba of Mysore ...	50	163·6	77·3	73·5

Comparing the last two summaries, one understands at once how the intercrossing of the jungle tribes with the Dravidian tribes has even at present the effect of diminishing the platyrrhine feature, as seen among the Tamil Irulas whose nasal index comes down to 80·4. Thurston expressly notes the physical change that takes place, when the tribes leave the jungle and approach the cities: thus the Canikars, who live near Travancore, have already 158·7 as stature and 81·2 as nasal index, instead of the low stature and the high nasal index

[1] Thurston (E.) and Rangachari (K.), op. cit., Vol. VI, p. 57.

"which are characteristic of the unadulterated jungle tribes."[1]

A great elevation of the nasal index is found in the so-called (by Risley) Dravidian tribes of Chota-Nagpur and of Western Bengal: here are the tribes (Munda and Kol) of the northern jungles, whose habitat Biasutti[2] includes in the area where a purer Veddaic substratum has persisted. We think that these tribes have wrongly been called Dravidian by Risley, who gives as characteristic Dravidians the Santals of Chota-Nagur, who with the Panians present the highest nasal index in the whole of India, as is seen in the following Summary which I take from Risley himself.[3]

SUMMARY VIII.

(Pseudo-Dravidian) Tribes of Chotanagpur and its neighbourhood.

Tribes or Castes.	Locality.	Individuals.	Stature.	Ceph. Ind.	Nasal Index.
Male ...	Santal Parganas ...	100	157·7	74·8	94·5
Mal Paharia ...	Do. ...	100	157·7	75·8	92·9
Korwa ...	Lohardaga ...	21	159·5	74·4	92·5
Manda (Munda) ...	Do. ...	100	158·9	74·5	89·9
Kharwar ...	Do. ...	100	160·5	75·5	89·7
Santal ...	Santal Parganas ...	100	161·4	76·1	88·8
Bhuiya ...	Lohardaga ...	100	157·7	76·0	88·7
Kharia ...	Do. ...	78	160·1	74·5	88·5
Lohar ...	Do. ...	73	162·1	75·3	86·7
Bhumij ...	Manbhum ...	100	159·2	75·0	86·5
Oraon ...	Lohardaga ...	100	162·1	75·4	86·1
Chik ..	Do. ...	29	158·9	73·8	85·9
Bhil ...	Mewar (Rajputana) ...	200	162·9	76·5	84·1

[1] *Ibid.*, Vol. I, Introduction, p. xlvii.
[2] BIASUTTI (R.), op. cit., p. 117, and the chart at p. 97.
[3] RISLEY (H. H.), *The People of India*, op. cit., p. 399.

Similarly the 29 Santals (settled near Ghoraghat in the district of Dinajpur) who were measured by Chanda[1] present nasal indices that range from a minimum of 76·6 to a maximum of 118·4.

Deniker recognises that the Veddahs are the remnants of a very primitive population "whose physical type is most approached by the platyrrhinous variety of the Dravidian race,"[2] thus indicating precisely the Santals, the Mundas, the Kols, the Bhumij, of whom we have given the anthropometric measurements in Summary VIII. We prefer to confine the Dravidian race to the mesorrhine type.[3] In such manner we confer on the Pre-Dravidians the present numerical preponderance, and their importance in the ethnic stratification of India augments proportionally.

Everything induces us to hold that the Dravidians have really been a small number of *invaders, who have introduced their languages*, and even that not everywhere, since in the Munda-Kol zone more ancient languages have been preserved. It is logical that if the languages have remained inspite of the Dravidian influence, those who speak them should also have been little contaminated. There is, therefore, no reason to consider them as platyrrhine Dravidians, but certainly as Veddaic or Australoid; and from the fact that between the Munda-Kols of the North and the Veddahs of the south there intervene other platyrrhines (the Paniyans, etc.), these latter also represent the same ancient Pre-Dravidian formation that extended at one time over the whole of India and is even now much

[1] CHANDA (R.), op. cit., p. 254.

[2] DENIKER (J.), op. cit., p. 479.

[3] In that case it will do no more to speak with Haddon: "The Munda-speaking peoples are stated to resemble so closely to Dravidians as to be indistinguishable from them" (*The Wanderings of Peoples*, op. cit., p. 26).

less affected by the newcomers (Dravidians, Aryans, etc.), than one might think![1]

With this reconstruction of ours is in accord what Chanda has written of the people found by the Aryans at the time of their descent into India: *since it seems that the Aryans really found themselves confronted by the Veddaic people, the Dravidians remaining rather in the second line.* I draw the following facts from Chanda.

The Dasyus, or Non-Aryans of Vedic India, are the true Aborigenes:[2] they are the fifth order of Vedic society, namely the Nishādas, who are mentioned in the most ancient literature and also afterwards in the Mahābhārata (XII, 59, 94-97) in the following terms: "The Nishādas, that is, these malicious tribes living in the hills and forests." But more important are the Puranic legends: in the Bhāgavata Purāṇa (IV, 14, 44) the Niṣādas are described as "black as crows, very low in stature, with short arms, having high cheek bones, low topped nose," etc. In the Vishṇu Purāṇa (I. 13) the same Niṣādas are described as of "the complexion of a charred stake, with flattened features and dwarfish stature." Evidently they were too numerous to be made slaves *en bloc* and the Aryans confined themselves to despise them and to describe them unfavourably: in their description the anthropologist discerns the protomorphic equatorial characters: low stature, very dark pigmentation and platyrrhiny. The present Bhils and Gonds who live in the Vindhya hills—against which was the Aryan struggle—often present such characters.

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[1] This is in accord with what Biasutti writes (op. cit., p. 101), "The Veddaic stratum, in form often much modified but always recognisable, has in this region a habitat almost continuous."

[2] According to CHANDA (op. cit., p. 1, et seq.), it has been erroneously asserted that the Śūdras represented the aborigines while they are none other than slaves, and they could also be Aryans, because in the Vedic period the Aryans fought not only against the Dāsas or Dasyus but also among themselves.

Chanda maintains that the Munda language has been spoken by the entire Niṣāda or Pre-Dravidian race, and has been preserved only by a part of them, namely, the wild tribes of Chotanagpur and the Savaras and Juangs of Orissa. The Bhils, instead, have taken up the Indo-aryan language, and the Gonds, the Khands and the Oraons together with the tribes of the South Indian jungles have taken up the Dravidian language. In all these tribes are found included the pre-existing Negritos.

While Thurston thinks that the Veddahs and the tribes of the South-Indian jungles may be called Pre-Dravidians,[1] Lapicque maintains instead, by observations that he has himself made in the interior of the Peninsula—that the Pre-Dravidian was of Negro type. He has seen on the border of the virgin forest and also on the hills partially covered with wood, "some groups in whom the Negro face, clearly designed, is wholly predominant." In these groups "the hair is generally curled and among them may be observed some that may even be called woolly."[2] This is not surprising, if, as already I have pointed out, we are dealing with remnants of the Negritos.

[1] THURSTON (E.) and RANGACHARI (K.), op. cit., Vol. I, Introduction, p. xxxi.

[2] Lapicque (L.), *Les Nègres d'Asie et la race Nègre en général.* "Rev. Scient." VI, July, 1906.

IV

Veddaic people and Negritos are also found outside India showing some relation between each other and precisely with regard to their language, if we take into consideration the conclusions of Father Schmidt,[1] who finds linguistic affinities among the Mundas of India, the Nicobarese (Negritos), the Palong, the Wa and Rieng of the Salwin basin, the Sakai (Veddaics) and Semang (Negritos) of the Malacca Peninsula,[2] and the Mon-Khmer of Indo-China. The Tibeto-Burman dialect also which prevails in the Himalayas, from Kunawar in the Punjab up to Darjeeling, preserves traces of an ancient language which undoubtedly has Munda characteristics, as also the language of the Khasis of Assam, though their physical appearance is rather Mongoloid.

I am forced to conclude that these protomorphic Asiatics had a linguistic unity which was wider than their somatic unity, but which must have been acquired secondarily, the Pre-Dravidians by their greater expansion having encroached upon Negritoid nucleuses. The Mon-Khmer affinities extend themselves into Indonesia, but here also we pass gradually into another somatic unity, since the Indonesians cannot be confounded either with the Negritos or with the Veddaics, although they are less distant from the latter than from the former and have many kindred relics in Indo-China. We pass over the anthropology of Indonesia of which the

[1] Schmidt (W.), *Die Mon-Khmer-Völker*. "Arch. f. Anthrop." N. F., V, 1906; and also *Die Gliederung der Australischen Sprachen*. Wien, 1919.

[2] Chanda (op. cit., p. 9) mentions the Sakai and the Semang as having affinity with the Veddahs, but this is not quite accurate since the Sakai and the Semang differ from each other, the Semang as well as the so-called black Sakai having characters mostly of the Negritos, for which reason they are separated from the Veddaics in our tables (X, XI and XII).

outlines have already been traced in another work[1]: the anthropometric diagnosis of the two Indonesiatic varieties—they appear in the system as a small species and a variety—is given according to the data in Tables VII, VIII and IX. We include in a last Summary all these data and those of Tables X, XI and XII, which refer to the varieties with which we have been occupied in this last part, so that herein may be found the anthropological position of all of them.

Summary IX.

Anthropometric Characters of Natives of the Indian Peninsula and some islands

	Stature.	Ceph. Index (Living)	Nasal Index (Living)
H. Australis Veddaicus	1571-1589	74·5-75·1	84·2-89·9
H. Australis Veddaicus Senoicus ...	1520-1562	75·5-78·7	85·6-91·9
H. Australis Veddaicus toala ...	1573	82·2	.....
H. Pygmaeus Asiaticus	1490-1507	77·7-83·7	97·1
H. Pygmaeus Asiaticus Andamanicus ...	1485	82·9	.....
H. Pygmaeus Asiaticus Philippinensis ...	1461	85·5	101·9
H. Indo-africanus Dravidicus [2] ...	1629-1636	71·7-77·3	73·5-77·2
H. Oceanicus (?) Ainu	1567-1581	76·5-77·3	.....
H. Indonesiacus	1520-1607	75·5-81·5	77·3-100·4
H. Indonesiacus brachimorphus ...	1543-1628	82·1-86·0	75·2-92·6

[1] Giuffrida-Ruggeri (V.), *I caratteri craniologici degl' Indonesiani*, loc. cit.

[2] These refer to Summary VII in the text.

As will be seen, in this summary the Todas do not appear beside the Ainus, notwithstanding that De Quatrefages and Sergi have placed them together, which probably the former would not have done, if he had known the remarkable points of difference that have since been ascertained. The stature, the somatic proportions and the facial aspect, specially with regard to the nose and the cheek-bones, all give a very different morphology which the hypertrichy succeeds in covering insufficiently and only at first sight.[1] The Todas therefore are placed among the unclassified of Tables IV (occupying a position very near the maximum height), V and VI, it not being possible, on account of their marked occidental physical aspect, to place them outside the Leucoderms,[2] if ethnic anthropology corresponds to something concrete rather than being simply subjective.

A last hypothesis about the Ainus has been started by Bonarelli ; he says, "I am of opinion that Tibet was inhabited originally by a human type of the Indo-Irano-Mediterranean group who afterwards pushed on as far as Japan where the still living Ainus appear to be their modern descendants. In other words, I do not see that these Proto-Iranoids could have advanced as far as Japan (leaving in China evident traces of their passage), by any other way than the Tibetan region."[3] It seems to me

[1] The hypothetic "Toda-Ainu" has been criticised also from the geonemic point of view by BIASUTTI (op. cit., p. 115, note 4). He notes (*ibid*, p. 61) moreover, that the nasal index of the Ainus taken by Koganei cannot be made use of, like the others that are ordinarily taken, and therefore the average given by Koganei, evidently too low, does not appear in our summary IX.

[2] As something rather comic, may be cited what we read on p. 116 of the treatise, *Les races humaines* published about 1910 on the Todas, who are said to be related by their hairiness to the Australians, by the formation of their head to the ancient Romans, and, lastly, considered "to be the most ancient race of India having preserved some of the peculiarities of the Negritos." Happily the author has remained anonymous.

[3] BON RELLI (G.), *Alcuni problemi d'antropologia sistematica*. "Anal. Soc. Cient. Argent." T. LXXXV, Buenos Ayres, 1918, p. 48.

that this migration to the islands of the Pacific could have taken place only in very ancient times when, China being almost uninhabited, it would have escaped the contamination of type. If this hypothesis takes us back to an epoch in which central Asia was not yet divided between the Leucoderms and the Xanthoderms, when these types perhaps had not yet come into existence, then we have still greater reason on our side to consider the Ainu as an archeomorphous (this term is preferred by Bonarelli) relic, without actual systematic affinity.

Probably the two subdivisions of *H. Indonesiacus*, made according to the approximate indication derived from the cephalic index, are not sufficient and one ought to examine the other characters, as we have done for *H. Asiaticus* ; the nasal index specially shows too great oscillations which might be distributed into several minor groups. It would be desirable that the large islands of Indonesia were subjected to an extensive anthropological survey like that splendid one that Great Britain has made in India, and as the United States are doing for the Philippine Islands. The measurements of Hagen are hardly useful—he takes the nasal length on the ridge of the nose—and also the high nasal ndex found by Kohlbrugge among the Tengerrese would require to be confirmed.

In Summary IX those islanders that have the characters of *Homo Asiaticus* are not included, since they would be out of place, such for example, as many natives of the Philippines, and so also the natives of Formosa. On the contrary many of the Formosans and likewise the Igorots of Luzon are considered by Hrdliçka[1] as good representatives of the primitive yellow type. The Igorots are shown

[1] Hrdliçka (A.), *The Genesis of the American Indian.* "XIX International Congress of Americanists," Washington, 1917, p. 565.

among the unclassified in Tables I, II, and III, and if confronted with the fundamental summary about *H. Asiaticus* which is our Summary I, it is seen at once that their nasal index is too high. Instead, the Formosans fit exactly by stature, cephalic index and nasal index into the frame of the *H. Asiaticus protomorphus*, who include much of the population of Assam, the Miao-tsè and Lu-tsè of the Cuang-so and other neighbouring tribes (Lissu, Lolo), considered for a long time as the most primitive populations of this sub-Chinese region.

We have evidently here a dolicho-mesaticephalic type, which Hrdlička finds also in a large portion of Tibet, in Mongolia, in various parts of Siberia—and this study of ours confirms it (*vide* Tables I, II, and III)—and who are not entirely wanting, neither in China nor in Corea, nor in Japan. Only we observe that in all these regions it is less platyrrhine than in south-east China (and much less platyrrhine than in the Philippines); so that it is necessary to decide whether the existence of the platyrrhine character is explained by the greater primitivity of these southern populations, or whether it is explained by an admixture that occurred with another human type, which presented the platyrrhine feature among its morphological characters.[1]

The recent work of Williams[2] gives us an idea of the ethnic stratification which seems to be found in S.E. Asia. Williams holds that towards 1100 B.C. Burmah,

[1] For the Igorots measured by Kroeber, to which the nas. ind. of Table III refers, there can be no doubt that we are dealing with an admixture with the Negritos as we have an average of 99·8, max. 135·5 and min. 82·6: I therefore—the unreliable nature of such data is well known to us—place them among the unclassified. The pure type (or Bontoc Igorots) has certainly not so high a nas. ind.: it is only necessary to see their portraits published by Bean, Worcester, Yenks, and others, as is suggested in the "Amer. Journ. Phys. Anthrop.", Vol. II, 1919, p. 442.

[2] Williams (E. T.), *The Origins of the Chinese*. "Amer. Journ. Phys. Anthrop." Vol. I, 1918, n. 2.

Siam, Cambodia, Annam, and probably a portion of Southern China were partially inhabited by wild Negritos, who were gradually pushed to the mountains (he affirms that in Burmah there are still some Negritos, who are called Selung) and towards the sea. It remains to be known where they can have gone once they reached the Chinese sea, because they are not to be found in the coastal region; it would be interesting to know now whether the Negritos of the Philippines, are a transplantation of the continental Negritos, who at one time—the epoch cannot be precisely stated and this is hardly of any importance—held the southern zone of Asia; besides, it would be most important to ascertain whether the transmigrated Negritos have been followed by *H. Asiaticus protomorphus*. In fact, this last would have been able in this way to acquire a meso-platyrrhine character more accentuated than their own, whether on the continent or in the islands, the platyrrhine feature being precisely a conspicuous morphological character of the Negritos. This solution has the advantage of doing without the Indonesian type in the Philippines, which could have been peopled in another way than Indonesia; only in later times the Malayan diffusion—which has very little anthropological importance—has uniformly worked on the coasts of all these insular territories, giving rise to an extensive metamorphosis, which lends itself to various interpretations.[1]

Nothing useful for Ethnology can be drawn from the analytical works of Bean, who has been led astray by the mirage of the identification of the individual morphological

[1] I recommend to the reader the useful work of SULLIVAN (L. R.), *Racial Types in the Philippine Islands*. "Anthrop. Pap. Amer. Mus. Nat. Hist." XXIII, Part I, New York, 1918. The reader will also find here many series of natives (stature, ceph. ind. and nas. ind.) which we have omitted on account of their uncertain systematic collocation.

type: individually there are crania of Cro-Magnon type and of an infinite number of other types—but it is all an illusion due to the metamorphism which has taken place. In whatever part of the habitable globe such a process has been proved to have taken place—Pycraft has ultimately selected Dutch New Guinea—there results a similar pseudo-zoological hotch-potch, when one considers the individual resemblances brought out by the profile of a cranium. Even for morphological analysis one needs "the grain of salt," which is easily lost when one follows the main road of the migrations by sea dear to Elliot Smith.

We need not occupy ourselves with them, although we hold that the Indonesians and the Polynesians are off-shoots of the yellow stock, who by their insular residence have become distinct species or sub-species.

In the interior of the Asiatic continent the centre of propulsion of the ethnic movements appears to be situated in the north. The Shu who later were called the Chinese, lived in ancient times in the upper valley of the Yellow River, but their traditions place the cradle of their race more to the N.W. The classical work denominated *Shan Hai King*, written not later than 1122 B.C., shows that the Chinese of that epoch referred always to the N.W. as the country of their ancestors and demigods. In this same region there was somewhere a country of "white men": the marvellous country of the mythical ancestors is beyond the "North Western" Sea. Williams believes that it refers to Kokonor; but there are other lakes of the same and even larger dimensions (*e.g.*, Issik-Kul and Balkash which is very large) towards Thiansan and Zungaria, which are really the regions to the N.W. of China: a lake larger than the present Lobnor occupied probably the depression in which the Tarim flows. It is useless to insist on what, for the time at

least, cannot be affirmed with any decisive proof, nor do I wish to bring in here other arguments which are known by specialists of other branches of science ; but every one sees that in various ways the possibility of the double anthropological centre in the north[1]—centre of origin of the two great human types the white and the yellow (beside which there are only equatorial types who are more or less pigmented)—is strongly placed before the attention of physical anthropologists, without making any excessive appeal to their faculty of imagination, by which it is well that they should not be overmuch endowed.

[1] Granted the theory of Ologenesis, it would perhaps be a case of species by couples that is to say of two twin species, born, as Rosa says, "by the duplication of a common immediate progenitor." Even many of Rosa's theoretic previsions seem to be confirmed by facts : Rosa writes : "These species by couples ought to be recognised by characters which make them closely approach each other, leaving a considerable interval between the two species of the couple and those near, perhaps also they might with some facility produce hybrids among themselves, although not stable, and then they ought to occupy almost a common area, inspite of eventual differences of habitat, and the two species ought to be found associated with each other even in regions that are not connected." Rosa (D.), *Ologenesi. Nuova teoria dell' evoluzione e della distribuzione geografica dei viventi.* Firenze, 1918.

The so-called *allogenes* of Indo-China, the Pseudo-Mediterraneans of New Zealand and others would find an explanation in a common progenitor. And the theory would take a decisive step forward, if one could verify between the two species some constant relations in the number of the *cromosomes* ; which should not be very difficult.

SYNOPSIS METHODICA

Tables to be used for the making of new maps of the geographical distribution of anthropometrical characteristics in Asia (almost all the data which are found in the text in Summaries III, IV, V, VI, VII and VIII are here omitted.)

Anthropometric Tables.

Tab.	I.—Stature of the Asiatic Xantoderms	88	series
„	II.—Ceph. Ind. „ „	85	„
„	III.—Nas. Ind. „ „	62	„
„	IV.—Stature of the Asiatic Leucoderms	53	„
„	V.—Ceph. Ind. „ „	63	„
„	VI.—Nas. Ind. „ „	46	„
„	VII.—Stature of the Indonesians and allied peoples ...	31	„
„	VIII.—Ceph. Ind. „ „	31	„
„	IX.—Nas. Ind. „ „	26	„
„	X.—Stature of the Australoids, Negroids, etc.	17	„
„	XI.—Ceph. Ind. „ „	16	„
„	XII.—Nas. Ind. „ „	9	„

TABLE I. Stature of the Asiatic Xantoderms.

	Individuals	Averages	Percentages				Authors or former compilations
			× -1600	1601-1650	1651-1700	1701- ×	
H. asiaticus Chinese	138	1627	37	30	21	12	Iv. (1911)
„ „ northern (soldiers)	942	1676					Koganei
„ „ „ majority from Chi-li	38	1674					Gaupp
„ „ west of Se-chuan	100	1612					Legendre
„ „ southern	15582	1622					D. (1900)
„ *neoarcticus* Chukchi	162	1625	42	49	16	13	Iv. (1911)
„ „ Eskimo asiatic	61	1623	41	33	21	5	„ „
„ *paleoarcticus* Jukaghiri	70	1560	86	14			„ „
„ „ Coriachi	197	1599	57	30	13		„ „
„ „ Camchadales	63	1601	44	40	10	6	„ „
„ „ Tungus from Ghiscighinsk	52	1565	17	15	6	2	„ „
„ „ „ „ Anadir	22	1574	77	14	9		„ „
„ „ „ „ Colima	9	1588	78		11	11	„ „
„ „ Orotsci	37	1545					„ (1904)

„ „	Caragassi	20	1589					„ „
„ „	Ostyaks from the Obi	195	1579					„ „
„ „	„ „	127	1565	72	22	3	2	Rudenko
„ „	Voguls northern	75	1567	72	24	4		„
„ „	*brachimorphus* Samoyed	54	1568	69	20	11		„
„ „	„ „ Tavgi	37	1570					Czapliçka
„ „	„ „ Yurak	21	1587					„
„ „	„ Tungus western	116	1580					„
„ „	„ Ostyaks Yenisseians ...	25	1540					D. (1900)
„ „	„ Soyots	72	1597					„ „
„ *altaicus*	Beltiri	78	1607	43	36	18	3	Iv. (1911)
„ „	Cachini	42	1619	36	31	29	4	„ „
„ „	Coibali	39	1613	36	38	23	3	„ „
„ „	Chisili	87	1626	30	41	22	7	„ „
„ „	Melezki	37	1598	41	38	16	5	„ „
„ „	Sagai	60	1620	35	33	25	7	„ „
„ „	Yakuts	207	1624					Mainoff
„ „	Lebedins	61	1626					Hildén
„ *centralis*	Manchu	18	1630					Torii

TABLE I.—*continued.*

	Individuals	Averages	Percentages				Authors or previous compilations
			x-1600	1601-1650	1651-1700	1701-x	
H. asiaticus centralis Tungus transbaical	45	1638					Iv. (1904)
„ „ „ chamnegani	20	1614	25	30	45	10	„ (1911)
„ „ „ southern	86	1631					Mainoff
„ „ Buryats	825	1631					Iv. (1904)
„ „ Mongols-Torguts from Zungaria	296	1629					D. (1900)
„ „ Kirghis-Kazak	387	1638					„ „
„ „ „ middle tribe		1651					Iv. (1904)
„ „ Carakirghis	83	1676	11	19	38	32	„ (1911)
„ „ Taranchi	374	1646	25	29	26	20	„ „
„ „ „ Turfan	77	1663					Joyce
„ „ Hazara (Afghanistan)	200	1684					Cens. Ind.
„ „ Telengets	238	1636					Lutzenko
„ „ „	29	1631					Hildén
„ *tibetanus* Ladaki	31	1634	29	51	10	10	Iv. (1911)

"	"	" ...	...	...	...	41	1638	22	39	22	17	Biasutti
"	"	Tibetans eastern	...	...	...	155	1640	32	23	25	20	Iv. (1911)
"	"	Kambu (Nepal)	...	...	...	32	1571					Cens. Ind.
"	"	Mangor "	...	...	...	35	1587					" "
"	"	Murmi (Nepal and Darjeeling)		...	...	65	1669					" "
"	"	Gurung "	"	...	...	28	1633					" "
"	"	Lepcha (Sikkim)	...	...	...	57	1570					" "
"	"	" Rong (Sikkim)	...	...	...	36	1584					" "
"	"	*brachimorphus* Changpà (Tibet)		...	...	32	1622	35	28	31	6	Biasutti
"	"	" Limbu (Nepal)		...	...	50	1603					Cens. Ind.
"	*protomorphus*	Khasia (Assam)	...	...	...	81	1569					" "
"	"	Bodo "	...	...	...	33	1608					" "
"	"	Mande "	...	...	...	34	1588					" "
"	"	Mishing "	...	...	...	25	1564					" "
"	"	Arleng "	...	...	...	18	1633					" "
"	"	Lissu (Yun-nan)	...	...	...	9	1608	33	33	33		Iv. (1911)
"	"	Lolo (Se-chuan)	...	...	...	29	1675					Legendre
"	"	" "	...	...	...	6	1635					Delisle
"	"	Miao-tsè (Cuang-si)	...	...	...	31	1550					Torii

TABLE I.—*concluded.*

	Individuals.	Averages.	Percentages.				Authors or previous compilations.
			× -1600	1601-1650	1601-1700	1701- ×	
H. asiaticus protomorphus Lu-tsè (Cuang-si)	10	1594	50	10	40	—	Iv. (1911)
" " Formosans	46	1605					Torii
" *meridionalis* Chakma (Rangamati)	100	1595					Cens. Ind.
" " Burmans	231	1649					D. (1900)
" " Anamites	174	1559	46	35	14	4	Iv. (1911)
" " "	457	1585					D. (1900)
" " Laotians	56	1590					" "
" " Siamese	30	1607					" "
Unclassified Groups arranged in the order of stature:							
Igorots (Luzon)	104	1540					Bean
Malays from Malacca	12	1583	57	17	16	—	Iv. (1911)
Japanese	25000	1585					D. (1900)
Keria (Cashghar)	15	1589	53	27	20	—	Iv. (1911)
Malays from South-Perak	36	1594					Annandale

Taytay (Luzon)	183	1595						Bean
Koreans	113	1615	37	41	12	10		Iv. (1911)
Japanese	10	1617						Bean
Zungàri	296	1629						D. (1900)
Koreans	—	1631						Jijma
Dungani	44	1666	16	20	36	28		Iv. (1911)
Siba (Zungaria)	38	1675						D. (1900)
Usbegs	292	1675	11	22	30	37		Iv. (1911)
Loplik (Cashghar)	38	1695						Joyce

TABLE II. Ceph. Ind. of the Asiatic Xantoderms.

	Individuals.	Averages.	Percentages.					Authors or previous compilations.
			× -75·00	75·01-77·77	77·78-80·00	80·01-83·33	83·34- ×	
H. asiaticus Chinese	138	79·66	9	23	18	27	23	Iv. (1911)
„ „ northern	942	80·2						Koganei
„ „ western	100(?)	79·3						Legendre
„ *neoarcticus* Chukchi	171	82·0	2	13	23	35	27	Iv. (1911)
„ „ Eskimo asiatic	60	80·8	3	13	37	32	15	„ „
„ *paleoarcticus* Jukaghiri	59	80·4	2	20	32	34	12	„ „
„ „ Coriachi...	193	80·0	2	16	25	36	21	„ „
„ „ Camchadales	63	78·5	18	30	33	13	6	„ „
„ „ Tungus from Ghiscighinsk	46	78·7	24	37	17	20	2	„ „
„ „ „ Anadir	23	80·8	9	4	35	35	17	„ „
„ „ „ Colima	10	78·5	20	30	30	20	—	„ „
„ „ Ostyaks from the Obi	195	79·23						„ (1904)
„ „ „ „ „ „	127	80·7	2	21	15	36	25	Rudenko
„ „ Voguls northern	75	78·3	11	31	31	24	3	„

„ „ *brachimorphus* Samoyed	54	83·3	—	—	15	40	45	„
„ „ „ „	88	83·95						Iv. (1904)
„ „ „ „ Tavgi	37	85·6						Czaplicka
„ „ „ „ Yurak	21	84·8						„
„ „ „ Tungus Western ...	116	85·1						„
„ „ „ Ostyaks Yenisseians ...	—	83·1						Sinelnikov
„ „ „ Soyots	72	83·03						D. (1900)
„ *altaicus* Beltiri	74	79·58	8	20	34	27	11	Iv. (1911)
„ „ Cachini	34	82·44	6	5	12	35	41	„ „
„ „ Coibali	35	80·10	—	14	37	31	18	„ „
„ „ Chisili	64	80·42	2	16	25	36	21	„ „
„ „ Melezki	35	81·62	—	11	23	40	26	„ „
„ „ Sagai	60	80·85	3	10	22	45	20	„ „
„ „ Yakuts	207	82·66						Mainoff
„ „ Tatars from Altai	16	79·5						D. (1900)
„ „ Lebedins	61	80·1						Hildén
„ *centralis* Manchù	61	86·8						Torii
„ „ Tungus chamnegani	23	84·34	—	13	13	35	39	Iv. (1911)
„ „ Buriats	816	85·87						„ (1904)

TABLE II—*continued.*

	Individuals.	Averages.	Percentages.					Authors or previous compilations.
			× -75·00	75·01-77·77	77·78-80·00	80·01-83·33	83·34- ×	
H. asiaticus centralis Torguts	103	84·73						Iv. (1904)
„ „ Kirghis	405	87·00	—	1	3	15	81	„ (1911)
„ „ Carakirghis	78	84·55	—	—	16	42	42	„ „
„ „ Taranchi	368	86·46	1	2	7	16	74	„ „
„ „ „ Turfan	72	85·07						Joyce
„ „ Hazara (Afghanistan)	209	85·00						Cens. Ind.
„ „ Telengets	238	86·1						Lutzenko
„ „ „	29	86·2						Hildén
„ „ Calmuks from Culgia and Tarbagatai ...	197	84·5						Iv. (1904)
„ *tibetanus* Ladaki	34	76·76	26	44	18	6	6	„ (1911)
„ „ „	41	77·8	19	32	27	15	7	Biasutti
„ „ Tibetans eastern	108	81·00	4	18	17	37	24	Iv. (1911)
„ „ Tibetans eastern	11	77·07						Delisle

„ „	Kambu (Nepal)	32	81·0						Cens. Ind.
„ „	Mangor	35	79·0						„ „
„ „	Murmi (Nepal and Darjeeling) ...	65	79·5						„ „
„ „	Gurung „ „	28	81·6						„ „
„ „	Lepchà (Sikkim)	57	79·9						„ „
„ „	Lepchà Rong (Sikkim)	36	80·5						„ „
„ „	*brachimorphus* Changpà (Tibet)	32	83·3	—	5	16	32	47	Biasutti
„ „	„ Limbu (Nepal)	50	84·3						Cens. Ind.
„ *protomorphus* Khasia (Assam)		81	78·6						„ „
„ „	Bodo „	33	78·4						„ „
„ „	Mande „	34	75·9						„ „
„ „	Mishing „	25	80·8						„ „
„ „	Arleng „	18	77·9						„ „
„ „	Lissu (Yun-nan)	9	77·2						Delisle
„ „	Lolo (Se-chuan)	29	79·4						Legendre
„ „	„ „	6	77·92						Delisle
„ „	Miao-tsè (Cuang-si)	40	80·6						Torii
„ „	Lu-tsè „	10	77·16						Delisle
„ „	Formosans	44	79·4						Torii

TABLE II—*concluded.*

	Individuals.	Averages.	Percentages.					Authors or previous compilations.
			× -75·00	75·01-77·77	77·78-80·00	80·01-83·33	83·34 ×	
H. asiaticus meridionalis Chakma (Rangamati)	100	84·3						Cens. Ind.
„ „ Burmans	231	83·1						D. (1900)
„ „ Anamites	105	82·65	—	4	15	41	40	Iv. (1911)
„ „ „	182	82·8						D. (1900)
„ „ Laotians	56	83·6						„ „
„ „ Siamese	17	85·5						„ „
Unclassified Groups arranged according to rising ceph. ind.:								
Dungani	38	76·98	29	24	34	8	5	Iv. (1911)
Japanese	10	77·65						Bean
Igorots (Luzon)	104	77·6						„
Loplik (Cashghar)	38	77·92						Joyce
Japanese	116	78·15	16	27	33	18	6	Iv. (1911)
Malays from Malacca	12	81·29	—	8	33	33	26	„ „

Taytay (Luzon)	182	81·79								Bean
Malays from South-Perak	37	82·3								Annandale
Cambodians	30	83·6								D. (1900)
Koreans	113	83·61	3	9	10	19	59	Iv. (1911)		
Usbegs	282	86·18	—	2	5	22	71	„ „		
Keria (Cashghar)	16	86·9	—	—	6	31	63	Joyce		

TABLE III. Nasal Ind. of the Asiatic Xantoderms.

	Individuals.	Average.	Percentages.			Authors or former compilations.
			-70·00.	70·01-85·00.	85·01-	
H. asiaticus Chinese	130	79·03	15	57	28	Iv. (1911)
„ „	100(?)	72·9				Legendre
„ *neoarcticus* Chukchi	9	78·70	11	78	11	Iv. (1911)
„ *paleoarcticus* Ostyaks from the Obi	127	76·5	16	69	15	Rudenko
„ „ Voguls northern	74	79·1	7	75	18	„
„ „ *brachimorphus* Samoyed	54	77·0	11	83	6	„
„ „ „ „ Tavgi	37	78·1				Czapliçka
„ „ „ „ Yurak ...	21	76·9				„
„ „ „ Tungus western ...	116	76·6				„
„ „ „ Ostyaks Yenisseians ...	—	76·3				Sinelnikov
„ „ „ Soyots	72	70·2(?)	47	52	1	Iv. (1911)
„ *altaicus* Beltiri	73	78·00	16	69	15	„ „
„ „ Cachini	34	78·00	27	53	20	„ „

„	„	Coibali	35	78·84	14	60	26	„	„
„	„	Chisili	65	74·51	20	78	2	„	„
„	„	Melezki	35	71·15	43	54	3	„	„
„	„	Sagai	60	73·07	28	65	7	„	„
„	„	Lebedins	61	78·90				Hildén	
„	*centralis*	Manchù	19	63·4(?)				Torii	
„	„	Tungus chamnegani	23	71·68	52	39	9	Iv. (1911)	
„	„	Buriats	—	72·5				Porotoff	
„	„	Torguts	—	60·46(?)				Iv. (1904)	
„	„	Kirghis	172	68·94	56	37	7	„ (1911)	
„	„	Carakirghis	47	75·97	28	55	17	„	„
„	„	Taranchi Turfan	72	78·29				Joyce	
„	„	Hazara (Afghanistan)	200	80·5				Cens. Ind.	
„	„	Telengets	29	75·6				Hildén	
„	*tibetanus*	Ladaki	31	75·54	29	42	29	Iv. (1911)	
„	„	„	41	75·51	29	56	15	Biasutti	
„	„	Tibetans eastern	144	73·56	34	51	15	Iv. (1911)	
„	„	„ „	11	74·47				Delisle	
„	„	Kambu (Nepal)	32	76·6				Cens. Ind.	

TABLE III—*concluded.*

	Individuals.	Averages.	Percentages.			Authors or previous compilations.
			× 70·00	70·01-85·00	85·01 - ×	
H. asiaticus tibetanus Mangor (Nepal)	35	76·6				Cens. Ind.
„ „ Murmi (Nepal and Darjeeling)	65	75·2				„ „
„ „ Gurung „	28	78·5				„ „
„ „ Lepchà (Sikkim)	57	67·2				„ „
„ „ Lepchà Rong (Sikkim)	36	78·2				„ „
„ „ *brachimorphus* Changpà (Tibet)	32	71·72	47	47	6	Biasutti
„ „ „ Limbu (Nepal)	50	74·1				Cens. Ind.
„ *protomorphus* Khasia (Assam)	81	86·3				„ „
„ „ Bodo „	33	88·0				„ „
„ „ Mande „	34	95·0				„ „
„ „ Mishing „	25	84·0				„ „
„ „ Arleng „	18	85·1				„ „
„ „ Lissu (Yun-nan)	9	85·89				Delisle

„ „ Lolo (Se-chuan)	29	75·9				Legendre
„ „ „ „	6	85·07				Delisle
„ „ Miao-tsè (Cuang-si)	27	88·1				Torii
„ „ Lu-tsé „	10	84·38				Delisle
„ „ Formosans	48	94·3				Torii
„ *meridionalis* Chakma (Rangamati)	100	84·5				Cens Ind.
„ „ Anamites	93	83·57	2	55	43	Iv. (1911)
Unclassified Groups arranged acc. to rising nas. ind.:						
Dungani	36	56·12(?)	86	11	3	Iv. (1911)
Usbegs	13	69·08	46	39	15	„ „
Japanese	116	72·94	39	51	10	„ „
Loplik (Cashghar)	38	75·76				Joyce
Keria „	16	81·1	—	69	31	Iv. (1911)
Malays from Malacca	12	81·11	8	59	33	„ „
„ South-Perak	37	81·2				Annandale
Igorots (Luzon)	18	99·8(?)	—	6	94	Iv. (1911)

TABLE IV. Stature of the Asiatic Leucoderms.

			Individuals.	Averages.	Percentages.				Authors or previous compilations.
					× -1600	1601-1650	1651-1700	1701- ×	
H. indoeuropaeus dolichomorphus indo-afghanus		Balti	81	1617	41	36	13	10	Iv. (1911)
,, ,, ,,		Kafir	18	1668					Joyce
,, ,, ,,		Dardi	45	1631	22	36	24	18	Iv. (1911)
,, ,, ,,		,, Machnopa ...	37	1646	24	22	41	13	Biasutti
,, ,, ,,		Kulu Lahuli ...	27	1610					D. (1900)
,, ,, ,,		Kanet (Kulu), ...	60	1654					Cens. Ind.
,, ,, ,,		,, (Lahul) ...	30	1618					,, ,,
,, ,, ,,		Rajput	420	1748					,, ,,
,, ,, ,,		Punjabi ...	444	1684					D. (1900)
,, ,, ,,		Sikh (Punjab) ...	97	1709					,, ,,
,, ,, ,,		Awan ,, ...	33	1706					,, ,,
,, ,,	*indo-iranus*	Beluchi (Beluchistan)	60	1662					,, ,,
,, ,, ,,		,, ,,	271	1678					Cens. Ind.

,,	,,	,,	Achakzai Pathan ,, ...	100	1722					,, ,,
,,	,,	,,	Pani ,, ,, ...	100	1677					,, ,,
,,	,,	,,	Kakar ,, ,, ...	112	1683					,, ,,
,,	,,	,,	Tarin ,, ,, ...	100	1683					,, ,,
,,	,,	,,	Dewar ,, ,, ...	200	1642					,, ,,
,,	,,	,,	Brahui (Beluchistan)...	198	1659					,, ,,
,,	,,	*irano-mediterraneus*	Susiani (Persia) ...	11	1633	27	27	19	27	Iv. (1911)
,,	,,	,,	Aderbeijanis ,, ...	239	1698					D. (1900)
,,	,,	,,	Persians Hagemi ...	108	1651					,, ,,
,,	,,	,,	Yesidi (Mesopotamia)	33	1633					Goroschtschveski
,,	,,	,,	Samaritani ...	20	1745	—	5	25	70	Iv. (1911)
,,	,,	,,	Jews from Palestine ...	14	1580	57	21	14	7	,, ,,
,,	,,	,,	,, (Spanish) from Jerusalem ...	30	1650	17	47	23	13	,, ,,
,,	,,	,,	Juruchi (Licha) ...	20	1693	—	5	70	25	,, ,,
,,	*brachimorphus armeno-pamiriensis*		Galcha ...	58	1669	14	24	41	21	,, ,,
,,	,,	,,	Tajiks ...	448	1689	8	22	18	52	,, ,,
,,	,,	,,	Wakhi (Cashghar) ...	19	1680					Joyce
,,	,,	,,	Armenians ...	946	1671	12	23	36	29	Iv. (1911)
,,	,,	,,	,, ...	76	1661					Pittard

TABLE IV—*concluded.*

	Individuals.	Averages.	Percentages.				Authors or previous compilations.
			x-1600	1601-1650	1651-1700	1701-x	
H. indoeuropaeus brachimorphus armeno-pamiriensis Curds brachycephals ...	63	1707					Pittard
„ „ „ Lasi (Transcaucasia)	112	1670					„
„ „ „ Aissors (Urmia) ...	33	1668					D. (1900)
„ „ „ „ (Tiflis) ...	22	1660					Chantre
„ „ „ Bektasci (Licha) ...	40	1665	12	18	52	18	Iv. (1911)
„ „ „ Metuals (Lebanon)...	10	1670					Sénez
„ „ *georgianus* Grusini	903	1652	18	29	44	19	Iv. (1911)
„ „ „ „	1838	1654					D. (1900)
„ „ „ Imeri	2865	1656					„ „
„ „ „ Svani	142	1658					„ „
„ „ „ Mingreli	1483	1646					„ „
„ „ „ „	23	1653	22	22	39	17	Iv. (1911)

Unclassified Groups arranged in the order of stature:							
Singhalese	49	1624	43	12	35	10	„ „
Khotan (Cashghar)	19	1645	26	26	21	26	„ „
„ „	67	1655					Joyce
Turks from Asia Minor	138	1670	3	18	48	31	Iv. (1911)
Sarti	238	1677	15	24	38	33	„ „
Curds	143	1680					Chantre
Todas	34	1683	9	18	41	32	Iv. (1911)
„	82	1698					Cens. Ind.
Tats (Transcaucasia)	28	1700					Chantre

TABLE V. Ceph. Ind. of the Asiatic Leucoderms.

	Individuals	Averages	Percentages.					Authors or previous compilations
			× -75·00	75·01-77·77	77·78-80.00	80·01-83·33	83·34- ×	
H. indoeuropaeus dolichomorphus indo-afghanus Afghans	10	74·81	70	30	—	—	—	Iv. (1911)
„ „ „ Balti	83	74·92	49	34	14	2	1	„ „
„ „ „ Cashmiri ...	20	72·52	80	15	—	—	—	„ „
„ „ „ Kafir	18	76·88						Joyce
„ „ „ Dardi	44	76·23	43	27	21	9	—	Iv. (1911)
„ „ „ Machnopa (Dardi) ...	37	76·79	32	30	30	5	3	Biasutti
„ „ „ Kulu-Lahuli ...	27	72·38	37	37	26	—	—	Iv. (1911)
„ „ „ Kanet (Kulu) ...	60	74·3						Cens. Ind.
„ „ „ „ (Lahul) ...	30	77·5						„ „
„ „ „ Rajput	420	72·4						„ „
„ „ „ Punjabi	444	74·2						D. (1900)
„ „ „ Sikh	80	72·7						„ „
„ „ „ Panditi	20	71·88	90	10	—	—	—	Iv. (1911)

„	„	„	Pahari	20	71·29	37	37	26	—	—	„ „
„	„	*indo-iranus*	Beluchi (Beluchistan)	60	80·0						D. (1900)
„	„	„	„ „ ...	271	80·4						Cens. Ind.
„	„	„	Achakzai Pathan „ ...	100	81·1						„ „
„	„	„	Pani „ „ ...	100	80·1						„ „
„	„	„	Kakar „ „ ...	112	81·9						„ „
„	„	„	Tarin „ „ ...	100	82·8						„ „
„	„	„	Dewar „ „ ...	200	81·7						„ „
„	„	„	Brahui „ „ ...	198	81·5						„ „
„	„	*irano-mediterraneus*	Susiani (Persia) ...	11	76·88	46	9	—	27	18	Iv. (1911)
„	„	„	Aderbeijanis „ ...	208	78·1						D. (1900)
„	„	„	Persians in general ...	168	78·4						„ „
„	„	„	Yesidi (Mesopotamia)	33	77·86						Goroschtschveski
„	„	„	Samaritani ...	20	76·2	40	35	10	10	5	Iv. (1911)
„	„	„	Fellachi from Palestine	55	76·25	27	38	24	9	2	„ „
„	„	„	Jews „ ...	14	79·8	7	14	29	36	14	„ „
„	„	„	„ (Spanish) from Jerusalem	30	78·2	13	33	27	10	17	„ „
„	„	„	Juruchi (Licha) ...	20	78·96	10	25	25	25	15	„ „
„	*brachimorphus armeno-pamiriensis*		Galcha	58	85·69	—	3	9	15	73	„ „

TABLE V—*concluded.*

	Individuals.	Averages.	Percentages					Authors or previous compilations.
			× -75·00	75·01-77·77	77·78-80·00	80·01-83·33	83·34- ×	
H. indoeuropaeus brachimorphus armeno-pamiriensis Tajiks ...	440	84·82	1	2	3	29	65	Iv. (1911)
,, ,, ,, Wakhi (Cashghar)	19	84·81						Joyce
,, ,, ,, Armenians ...	826	86·55	—	—	2	17	81	Iv. (1911)
,, ,, ,, ,, ...	124	85·69						Pittard
,, ,, ,, Curds brachycephals ...	63	86·49						,,
,, ,, ,, Lasi (Transcaucasia) ...	151	85·61						,,
,, ,, ,, ,, ,, ...	27	87·48						Chantre
,, ,, ,, Aissors (Urmia) ...	33	88·7						D. (1900)
,, ,, ,, ,, (Tiflis) ...	22	89·5						Chantre
,, ,, ,, Bektasci (Licha) ...	40	86·69	—	—	—	—	100	Iv. (1911)
,, ,, ,, Metuals (Lebanon) ...	10	84·06						Sénez
,, ,, ,, Ansaris (Antioch) ...	39	84·1	—	3	13	26	58	Iv. (1911)
,, ,, ,, ,, ...	15	85·0						v. Luschan

„ „ [1] „ Maronites (Syria) ..	20	86·0						
„ „ „ „ „ ...	29	87·13						Sénez
„ „ „ Kyzilbash (Mesopotamia northern).	189	86·0						v. Luschan
„ „ *georgianus* Grusini	789	84·23	—	4	11	26	59	Iv. (1911)
„ „ „ Svani	19	83·8						D. (1900)
„ „ „ Mingreli	54	82·5	7	7	19	22	45	Iv. (1911)
Unclassified Groups arranged according to rising cephalic index :								
Toda	115	73·25	75	21	3	1	—	„ „
Curds	221	75·0						v. Luschan
Turkomans transcasp.	23	77·9						D. (1900)
Curds (62 ♀)	332	78·53						„ „
Singhalese	142	78·8						„ „
Tats (Transcaucasia)	28	79·0						Chantre
Turks from Asia Minor	187	81·0						v. Luschan
Parsis	20	82·35	—	5	25	25	45	Iv. (1911)
Sarti	223	83·6	5	11	11	27	46	„ „
Khotan (Cashghar)	67	84·21						Joyce
„ „	22	84·4	—	5	9	27	59	Iv. (1911)
Turks from Asia Minor	137	84·4	5	14	12	20	49	„ „

TABLE VI. Nasal Index of the Asiatic Leucoderms.

				Individuals.	Averages.	Percentages.			Authors or previous compilations.
						× -70·00	70·01-85·00	85·1- ×	
H. indoeuropaeus dolichomorphus indo-afghanus			Balti	81	68·2	59	32	9	Iv. (1911)
,,	,,	,,	Kafir	18	72·06				Joyce
,,	,,	,,	Dardi	42	64·38	74	26	—	Iv. (1911)
,,	,,	,,	Machnopa (Dardi) ...	37	71·57	43	51	6	Biasutti
	,,	,,	Kanet (Kulu) ...	27	74·1				Cens. Ind.
,,	,,	,,	,, (Lahul) ...	30	66·4				,, ,,
,,	,,	,,	Rajput	420	71·6				,, ,,
,,	,,	,,	Punjabi	444	70·2				D. (1900)
,,	,,	,,	Sikh	80	68·8				,, ,,
,,	,,	*indo-iranus*	Beluchi (Beluchistan) ...	60	69·4				,, ,,
,,	,,	,,	,, ,,	271	72·5				Cens. Ind.
,,	,,	,,	Achakzai Pathan ,,	100	68·3				,, ,,
,,	,,	,,	Pani ,, ,,	100	73·0				,, ,,

,,	,,	,,	Kakar	,,	,,	112	69·6				,, ,,
,,	,,	,,	Tarin	,,	,,	100	67·8				,, ,,
,,	,,	,,	Dewar		,,	200	74·3				,, ,,
,,	,,	,,	Brahui		,,	198	70·9				,, ,,
,,	,,	*irano-mediterraneus*	Susiani	(Persia)	...	10	73·25	40	50	10	Iv. (1911)
,,	,,	,,	Aderbeijanis	,,	...	112	64·81				Chantre
,,	,,	,,	Yesidi (Mesopotamia)			33	61·59				Goroschtschveski
,,	,,	,,	Samaritani		...	20	59·6	90	10	—	Iv. (1911)
,,	,,	,,	Fellachi from Palestine			55	63·37	89	11	—	,, ,,
,,	,,	,,	Jews		,,	14	61·1	100	—	—	,, ,,
,,	*brachimorphus armeno-pamiriensis*		Galcha	...	...	27	66·8				D. (1900)
,,	,,	,,	Wakhi (Cashghar)		...	19	71·32				Joyce
,,	,,	,,	Armenians		...	724	62·55	78	20	2	Iv. (1911)
,,	,,	,,	,,		...	125	66·06				Pittard
,,	,,	,,	Curds brachycephals		...	63	63 94				,,
,,	,,	,,	Lasi (Transcaucasia)		...	152	67·88				,,
,,	,,	,,	,,	,,		27	64·45				Chantre
,,	,,	,,	Aissors (Tiflis)		...	22	67·3				,,
,,	,,	,,	Metuals (Lebanon)		...	10	64·23				Sénez
,,	,,	,,	Ansaris (Antioch)		...	39	72·0	41	51	8	Iv. (1911)

TABLE VI—*concluded.*

	Individuals.	Averages.	Percentages.			Authors or previous compilations.
			× ·70·00	70·01-85·00	85·01- ×	
H. indoeuropaeus brachimorphus georgianus Grusini	766	57·58	95	5	—	Iv. (1911)
„ „ „ „	49	64·5				D. (1900)
„ „ „ Imeri	62	60·8				„ „
„ „ „ Mingreli	45	62·96	71	29	—	Iv. (1911)
Unclassified Groups arrang acc. to rising nas. ind. :						
Curds (62 ♀)	332	66·03				Chantre
„	15	64·44	73	27	—	Iv. (1911)
Tats	32	67.30				Chantre
Turks from Asia Minor	120	70·00				„
Khotan (Cashghar)	67	74·7				Joyce
Singhalese	29	74·9				D. (1900)
„	10	75·84	40	40	20	Iv. (1911)
Todas	22	76·0	36	59	5	„ „
„	82	74·9				Cens. Ind.

Table VII. Stature of the Indonesians and allied peoples.

	Individuals.	Averages.	Percentages.				Authors or previous compilations.
			× -1600	1601-1650	1651-1700	1701- ×	
H. indonesiacus Indonesians	38	1500	76	11	8	5	Iv. (1911)
„ Ulu-ayar (Borneo)	19	1571	74	16	10	—	„ „
„ Dayaks „	42	1577					Haddon
„ Baravan „	12	1540					„
„ Malang „	16	1535					„
„ Lerong „	10	1520					„
„ Tengerreses (Java)	162	1607	48	28	16	8	Iv. (1911)
„ Orang-Kubu (Sumatra)	37	1587	62	27	11	—	„ „
„ Battas „	43	1603	44	35	19	2	„ „
„ Niasseses	1295	1547					Kleiweg de Zwaan
„ Enganeses	—	1570					„ „
„ *brachimorphus* Javanese	182	1628	49	32	12	7	Iv. (1911)
„ „ Sondaneses from Java	209	1594	57	30	12	1	„ „

TABLE VII—*concluded.*

	Individuals.	Averages.	Percentages.				Authors or previous compilations.
			× -1600	1601-1650	1651-1700	1701- ×	
H. indonesiacus brachimorphus Iban (Borneo)	52	1591					Haddon
,, ,, Sibujan ,, ...	14	1543					,,
,, ,, Bughi (Celebes)	15	1601	41	33	13	13	Iv. (1911)
,, ,, Macassars ,, ...	14	1618	33	33	33	—	,, ,,
,, ,, Baveanes	14	1615	43	29	21	7	,, ,,
,, ,, ,, ...	125	1587					D. (1900)
,, ,, Madureses	13	1606	54	23	15	8	Iv. (1911)
Unclassified Groups (much mixed up):							
Malays (principally from Sumatra)	915	1550	79	14	6	1	,, ,,
Kajan (Borneo)	34	1584	61	24	9	6	,, ,,
,, ,, ...	21	1550					Haddon
Punan ,, ...	13	1580	70	8	22	—	Iv. (1911)
,, ,, ...	19	1550					Haddon

Keniah „	26	1608						„
Toragia (Celebes)	25	1573	64	28	8	—	Iv. (1911)
Gorontalo „	20	1584					Lubbers
Cambodians Kmer	11	1623	27	55	18	—	Iv. (1911)
„ „	117	1648					D. (1909)
„ Moï	359	1583					„ „

TABLE VIII. Ceph. Ind. of the Indonesians and allied peoples.

		Individuals.	Averages.	Percentages.					Authors or former compilations.
				× -75·00	75·01-77·77	77·78-80·00	80·01-83·33	83·34- ×	
H. indonesiacus	Indonesians	37	81·51	3	21	22	27	27	Iv. (1911)
„	Ulu-ayar (Borneo)	31	75·5	57	23	10	10	—	„ „
„	Dayaks „	42	78·4						Haddon
„	Baravan „	12	77·8						„
„	Malang „	16	76·9						„
„	Lerong „	10	78·5						„
„	Tengerreses (Java)	130	79·71	3	22	29	36	10	Iv. (1911)
„	Orang-Kubu (Sumatra)	31	79·98	3	29	19	32	17	„ „
„	Battas „	43	80·91	5	21	23	23	28	„ „
„	Acheneses „	20	80·5						D. (1900)
„	Sumbaneses	45	79·1						Ten Kate
„	Mentavei	19	79·97	5	16	31	37	11	Iv. (1911)
„	Niasseses	1297	80·72						Kleiweg de Zwaan
„	*brachimorphus* Javanese	812	84·27	1	4	9	31	55	Iv. (1911)

„ „	Sondaneses from Java	24	86·02	—	—	8	25	67	„ „
„ „	Iban (Borneo)	52	83·0						Haddon
„ „	Sibujan „	14	83·1						„
„ „	Bughi (Celebes)	15	84·93	—	13	7	33	47	Iv. (1911)
„ „	Macassars „	14	84·97	7	—	21	22	50	„ „
„ „	Baveanes	14	83·72	—	—	7	43	50	„ „
„ „	Madureses (*pro parte !*) ...	13	82·08	8	15	8	38	31	„ „
Unclassified Groups (much mixed up):									
Malays (principally from Sumatra)		1014	81·81	5	12	16	32	35	„ „
Kajan (Borneo)		48	82·0	2	15	21	33	29	„ „
„ „		21	79·8						Haddon
Punan „		14	82·0	2	15	21	33	29	Iv. (1911)
„ „		19	80·9						Haddon
Keniah „		26	79·9						„
Toragia (Celebes)		14	82·1	14	7	14	14	50	Iv. (1911)
Gorontalo „		...	82·7						Lubbers
Cambodians Kmer		42	83·05	—	5	14	60	21	Iv. (1911)
„ Kui		20	82·0						D. (1900)
„ Moi		360	77·5						„ „

TABLE IX. Nas. Ind. of the Indonesians and allied peoples.

	Individuals.	Averages.	Percentages.			Authors or previous compilations
			× · 70·00	70·01-75·00	75·01 · ×	
H. indonesiacus Indonesians	38	88·17	3	37	66	Iv. (1911)
,, Ulu-ayar (Borneo)	31	90·3	—	19	81	,, ,,
,, Dayaks ,, ...	42	86·3				Haddon
,, Baravan ,, ...	12	89·1				,,
,, Malang ,, ...	16	88·2				,,
,, Lerong ,, ...	10	86·5				,,
,, Tengerreses (Java)	130	100·41	—	8	92	Iv. (1911)
,, Orang-Kubu (Sumatra)	31	90·17	3	16	81	,, ,,
,, Sumbaneses	45	81·0				Ten Kate
,, Mentavei	19	92·24	—	42	58	Iv. (1911)
,, Niasseses	1294	77·28	13	70	17	Kleiweg de Zwaan
,, *brachimorphus* Javanese	82	83·75	4	46	50	Iv. (1911)
,, ,, Sondaneses from Java	24	87·74	—	42	58	,, ,,

,, ,,	Iban (Borneo)	53	92·6				Haddon
,, ,,	Sibujan	14	81·8				,,
,, ,,	Bughi (Celebes)	15	88·37	—	44	56	Iv. (1911)
,, ,,	Macassars	14	84·26	—	64	36	,, ,,
,,	Baveanes	14	83·04	14	43	43	,, ,,
,, ,,	Madureses	13	75·23	23	62	58	,, ,,
Unclassified Groups (much mixed up):							
Malays (principally from Sumatra)		657	77·11	26	62	18	,, ,,
Kajan (Borneo)		48	84·1	2	54	44	,, ,,
,, ,, ...		21	91·6				Haddon
Punan ,, ...		14	83·0	—	64	36	Iv. (1911)
,, ,, ...		19	88·1				Haddon
Keniah ,, ...		26	92·7				,,
Cambodians Kmer		11	86·0	—	64	36	Iv. (1911)

Table X. Stature of the Australoids, Negroids, etc.

	Individuals.	Averages.	Percentages.				Authors or previous compilations.
			× -1600	1601-1650	1651-1700	1701- ×	
H. australis veddaicus Veddahs	88	1571	71	22	7	—	Iv. (1911)
„ „ Munda	100	1589	61	26	10	3	„ „
„ „ *senoicus* Senoi (Malacca)	33	1520	97	3	—	—	„ „
„ „ „ „ Batang Padana	30	1549	90	10	—	—	„ „
„ „ „ Sakais from Sumatra	19	1562	68	27	5	—	„ „
„ „ „ „ Mai Darat	34	1524	91	9	—	—	„ „
„ „ *toala* Toala (Celebes)	25	1573	64	28	8	—	„ „
H. pygmaeus asiaticus Semangs (Malacca) ...	17	1507					Annandale
„ „ Sakais (black) from Malacca	28	1490					D. (1900)
„ „ Orang Akett (Sumatra)	9	1502	89	—	11	—	Iv. (1911)
„ „ *andamanicus* Andamans	42	1493	98	2	—	—	„ „
„ „ „ „	115	1485					D. (1900)
„ „ *philippinensis* Aeta	91	1461	100	—	—	—	Iv. (1911)
H. indoafricanus dravidicus Tamils	86	1636	29	31	27	13	„ „
„ „ Hindus (principally Dravidians) ...	6423	1623	37	27	24	12	„ „
H. oceanicus (?) *ainu* Ainu	70	1581	74	20	6	—	„ „
„ „ „	91	1567	...	...	...	...	Koganei

Table XI. Ceph. Ind. of the Australoids, Negroids, etc.

	Individuals.	Averages.	Percentages.					Authors or previous compilations.
			× -75·00	75·02-77·77	77·78-80·00	80·01-83·33	83·34- ×	
H. australis veddaicus Veddahs	55	75·1						D. (1900)
„ „ Munda	100	74·5	61	26	12	1	—	Iv. (1911)
„ „ *senoicus* Senoi (Malacca)	33	78·69	18	34	18	15	15	„ „
„ „ „ Sakais from Sumatra	19	75·45	37	37	26	—	—	„ „
„ „ „ „ (white) from Malacca ...	68	78·7						D. (1900)
„ „ „ „ Mai Darat	34	78·3						Annandale
„ „ *toala* Toala (Celebes)	23	82·2	—	17	9	35	39	Iv. (1911)
H. pygmaeus asiaticus Semangs (Malacca)	20	77·7						Annandale
„ „ Sakais (black)	28	79·0						D. (1900)
„ „ Orang Akett (Sumatra)	9	83·65	—	—	11	55	34	Iv. (1911)
„ „ *andamanicus* Andamans	11	82·90	—	—	—	64	36	„ „
„ „ *philippinensis* Aeta	34	83·49	—	3	26	27	44	„ „
H. indoafricanus dravidicus Tamils	149	75·66	39	30	14	14	3	„ „
„ „ Hindus (principally Dravidians) ...	6528	75·2	47	24	12	9	8	„ „
H. oceanicus (?) *ainu* Ainu	70	76·5	24	40	32	4	—	„ „
„ „ „	95	77·3						Koganei

Table XII. Nas. Ind. of the Australoids, Negroids, etc.

	Individuals.	Averages.	Percentages.			Authors or previous compilations.
			× -70·00	70·01-75·00	75·01- ×	
H. australis veddaicus Veddahs	8	84·18				Deschamps
„ „ Munda	100	89·9	—	22	78	Iv. (1911)
„ „ *senoicus* Senoi	33	85·58	—	42	58	„ „
„ „ „ „ Mai Darat	33	91·9				Annandale
H. pygmaeus asiaticus Semangs (Malacca)	20	97·1				„
„ „ *philippinensis* Aeta	63	101·9	—	6	94	Iv. (1911)
H indoafricanus dravidicus Tamils	43	76·67	12	76	12	„ „
„ „ Hindus (principally Dravidians) ...	5904	82·37	14	70	16	„ „
H oceanicus (?) *ainu* Ainu	79	68·0(?)				Koganei

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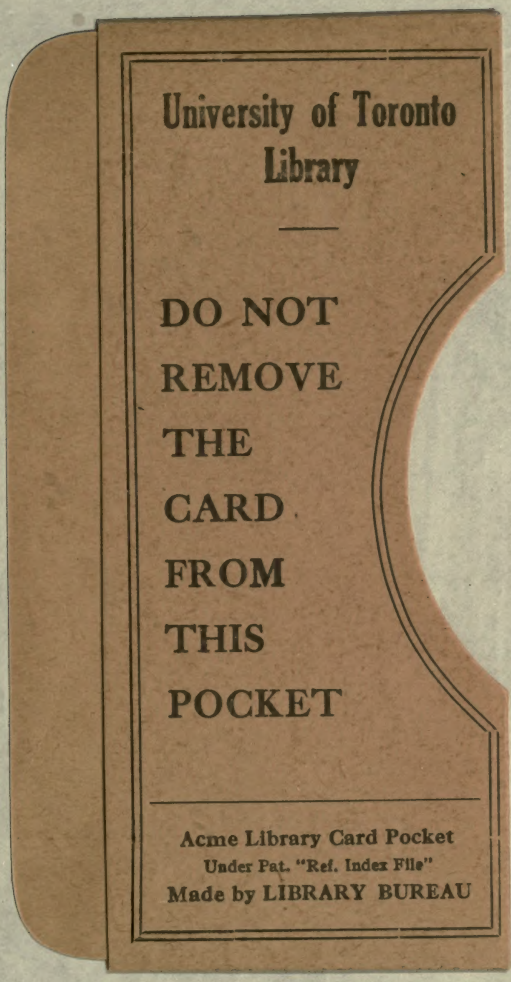
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